



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Coast Survey

Draft Project Instructions

Date Submitted: June 14, 2010
Platform: NOAA Ship *Thomas Jefferson*
Cruise Number: TJ-10-06
Project Title: S-K919-TJ-10
Western Sentry, Leg 2
Cruise Dates: June 14 – July 2, 2010

Prepared by: _____
Commander James M. Crocker, NOAA
Chief, Operations Branch
Hydrographic Surveys Division

Dated: _____

Approved by: _____
Jeffrey Ferguson
Chief, Hydrographic Surveys Division
Office of Coast Survey

Jeffrey Ferguson
I am approving this
document
2010.06.15 06:55:19 -04'00'

Dated: _____

Approved by: _____
Captain Michael S. Devany, NOAA
Commanding Officer
Marine Operations Center - Atlantic

Dated: _____



I. Cruise Overview

A. Cruise Period

This project is scheduled to begin on or about 14 June 2010 and end on 02 July 2010.

B. Operating Area (include optional map/figure showing op area)

The project area is located in the coast waters of the Gulf of Mexico from Louisiana to Florida. A map of the area can be found with the detailed project instructions appended to these instructions.

C. Summary of Objectives

One of the key science questions following the Deepwater Horizon well failure is the distribution and migration of oil plumes submerged at depth. Knowledge of the extent and density of subsurface oil plumes, and their movement, can support NOAA's response efforts by informing responders where oil may impact next as it is transported through the Gulf of Mexico. Direct mapping of subsurface oil plumes at depth also supports ground-truthing efforts by other vessels, supports the advancement of forecast models, and can lead to improved estimates for the total volume of oil ejected into the Gulf.

Continuing from the result of the first leg of Western Sentry, this project will conduct 1300 linear nautical miles of transect lines utilizing the three proven methods to detect and map the presence of submerged oil along the Louisiana, Mississippi, Alabama and Florida coasts. The three methods are: Turner Cyclops 7 Crude Oil Sensors deployed via CTD or via Moving Vessel Profiler (MVP); acoustic backscatter from echosounders utilizing 12kHz, 38kHz, 200kHz Simrad ES 60 singlebeam and 400kHz Reson 7125 multibeam.

D. Participating Institutions

Center for Coastal and Ocean Mapping, University of New Hampshire

E. Personnel (Science Party)

The Science Party consists primarily of ship personnel; survey department, wardroom, and deck department personnel under the direction of the Commanding Officer as delegated to the Operations Officers for day to day survey operations. Additionally the science party consists of the following participants:

Chief Scientist:

CDR Shepard M. Smith, NOAA, Commanding Officer, *Thomas Jefferson*

Other embarked personnel:

LT Samuel Greenaway-data integration, visualization, adaptive mission planning

Dr. Alex DeRobertis, AKFSC, bioacoustics
Dr. Dennis Apeti, NCCOS, Coastal Oceanography and Chemistry
LT Mark Blankenship, Operations Officer, TJ
CST Dan Wright, Chief Survey Tech, TJ
ST Samantha Allen, NOAA Ship Nancy Foster, CTD ops
ENS Jasmine Cousins, Lead for water sampling
Jason Sadler, NRDA, Chain of Custody

F. Administrative

1. Points of Contacts:

Principle Investigator:

Captain John Lowell, NOAA
Director, Office of Coast Survey
Office of Coast Survey
1315 East West Hwy, #6147
Silver Spring, MD 20910
(301) 713-2770 x134
John.Lowell@noaa.gov

Chief Scientist:

CDR Shepard Smith, NOAA
Commanding Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
N/CS33
Norfolk, VA 23510-1114
(757)-647-0187
CO.thomas.jefferson@noaa.gov

2. Diplomatic Clearances

N/A

3. Licenses and Permits

N/A

II. Operations

A. Cruise Plan/Itinerary

June 15- Depart Galveston, baseline water sampling and CTD in the vicinity of Flower
Gardens National Marine Sanctuary

June 16-Continue baseline work working Northeast toward shallower water just west of

Port Fourchon.

June 17-21 Reconnaissance for submerged oil in the coastal zone

June 21-Water, personnel, sample transfer in Pascagoula

June 21-25 Wellhead and vicinity

June 26-27 Reconnaissance for submerged oil in coastal zone, moving east

June 27 Water, personnel, and sample transfer in Pascagoula

June 27-July 2 Reconnaissance for submerged oil in coastal zone, moving east

July 2-Arrive Key West

B. Staging and De-staging

The ship will stage in Galveston, TX and de-stage in Key West, FL. Additional time may be required for ship and equipment decontamination at the conclusion of this project.

C. Operations to be Conducted

1. Underway Operations

The ship will square off Coast survey project in Western Gulf before beginning remaining baseline transects from SW Pass to Galveston. The ship will then begin coastal oceanographic transects along the affected coast.

The ship will operate with multiple echo sounders at different frequencies logging water column data continuously along track. If acoustic anomalies are detected in the echo sounder water column records, the extent of the anomaly will be investigated by running additional transects and locations will be selected for in-situ measurements.

The ship's Moving Vessel Profiler (MVP), outfitted with a multi-sensor package, takes casts four to six times per hour. The ship can acquire both sonar and MVP data at over 10kts, resulting in over 200 nautical miles per day of transect data that can be acquired. The presence of surface oil and submerged oil plumes are to be reported ashore periodically.

The ship will acquire data in waters approximately 20 – 200 meters deep along the coasts. The deep water work will focus on detecting the movement of oil away from the source.

2. Station Operations

Periodic direct samples will be taken to confirm the in-situ measurements of the MVP and the sonar observations. These sample sites will be chosen in areas with crude oil indicated at depth by the MVP, and where the echo sounder indicates an acoustic anomaly is of large enough size to reliably reach with direct sampling methods. CTDs and water sampling will be done at least once every 4 hours. Once acquired, water samples (surface or at depth) will be handled to meet

protocols as directed by the Unified Command. Water samples will be delivered ashore for contracted lab analysis.

The MVP can be used in depths of up to 100 meters at 10 kts and can be extended to 300 meters if the ship is stationary. The ship's sidescan winch was re-cabled with 0.322" data cable (estimated 1344 meters). The ship's oceanographic winch has been re-cabled with 2286 meters of 0.25" stainless steel wire rope to facilitate water sampling

D. Dive Plan

Dive operations are not planned to support this project.

E. Applicable Restrictions

As per attached project instructions.

III. Facilities

A. Equipment and Capabilities Provided by the Ship (itemized)

1. Single beam echo sounders operating at 12kHz, 38kHz, and 200kHz
2. Multibeam echo sounders operating at 95 kHz and 400 kHz
3. ODIM Brooke-Ocean Moving Vessel Profiler
4. Refrigerators for storing water samples (qty 2)

B. Equipment and Capabilities Provided by the Program Office (itemized)

1. ODIM Brooke-Ocean Moving Vessel Profiler sensor package that includes a Turner Cyclops 7 Crude Oil Sensor and a sound speed sensor.
2. Sub-compact rosette with a 12 bottle capacity, equipped with a Seabird SBE 9 CTD, Fluorometer, Cyclops 7, Optical Backscatter sensor, and DO sensor
3. Water sampling and preservation supplies

IV. Hazardous Materials

A. Policy and Compliance

The Chief Scientist is responsible for complying with MOCDOC 15, Fleet Environmental Compliance #07, Hazardous Material and Hazardous Waste Management Requirements for Visiting Scientists, released July 2002. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

By Federal regulations and NOAA Marine and Aviation Operations policy, the ship may not sail without a complete inventory of all hazardous materials by

name and the anticipated quantity brought aboard, MSDS and appropriate neutralizing agents, buffers, and/or absorbents in amounts adequate to address spills of a size equal to the amount of chemical brought aboard. The amount of hazardous material arriving and leaving the vessel shall be accounted for by the Chief Scientist

B. Radioactive Isotopes

N/A

C. Inventory

The ship will incorporate any HAZMAT into the ship's HAZMAT program in accordance with MOCDOC15

V. Additional Projects

A. Supplementary ("Piggyback") Projects

N/A.

B. NOAA Fleet Ancillary Projects

N/A

VI. Disposition of Data and Reports

A. Data Responsibilities

Data will be submitted to the Unified Command for proper dissemination and archival.

B. Pre and Post Cruise Meeting

Communications between the Commanding Officers and HSD Operations Branch are established and maintained throughout the planning process, the execution and following the project's completion. When applicable, pre-cruise and post-cruise meeting will be held as defined below.

Pre-Cruise Meeting: Prior to departure, the Chief Scientist may conduct a meeting with the Program Office to clarify any outstanding issues on the requirements of the project.

Post-Cruise Meeting: Upon completion of the cruise, the completed project will normally be discussed via a teleconference or summary e-mail. Concerns regarding safety, efficiency, and suggestions for improvements for future cruises should be discussed. Results of any discussions will be distributed to all

participants by email, and to the Commanding Officer and Chief of Operations, Marine Operations Center.

C. Ship Operation Evaluation Report

Because the Commanding Officer is the Chief Scientist for the assigned project, a conflict of interest may be presented if the Commanding Officer completes a Ship Operations Evaluation form. To handle Ship Operation Evaluation, direct communication has been established by OCS and HSD leadership directly with OMAO to communicate ship operations concerns.

VII. Miscellaneous

A. Meals and Berthing

Meals and berthing are required for ship's complement. Special dietary requirements for Program Office participants will be made available to the ship's command at least seven days prior to the survey (e.g., visiting Physical Scientist is allergic to fin fish).

Berthing requirements, including number and gender of the visiting Program Office participants, will be provided to the ship by the Program Office.

All Program Office Representatives will have proper travel orders when assigned to any NOAA ship. The Program Office will ensure that all non NOAA or non Federal scientists aboard also have proper orders. It is the responsibility of the Program Office to ensure that all visitors have a mechanism in place to provide lodging and food and to be reimbursed for these costs in the event that the ship becomes uninhabitable and/or the galley is closed during any part of the scheduled project.

All persons boarding NOAA vessels give implied consent to comply with all safety and security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time. All personnel must comply with OMAO's Drug and Alcohol Policy dated May 7, 1999 which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ, Revised: 08/08) must be completed in advance by each visitor that will be underway overnight. The NHSQ can be obtained from the Chief Scientist or the NOAA website at http://www.oma.noaa.gov/medical/NHSQ_Final_wi_Instructions_fill.pdf. The completed form should be sent to the Regional Director of Health Services at Marine Operations Center. The participant can mail, fax, or scan the form into an email using the contact information below. The NHSQ should reach the Health

Services Office no later than 4 weeks prior to the cruise to allow time for the participant to obtain and submit additional information that health services might require before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of the NHSQ. Be sure to include proof of tuberculosis (TB) testing, sign and date the form, and indicate the ship or ships the participant will be sailing on. The participant will receive an email notice when medically cleared to sail if a legible email address is provided on the NHSQ.

Contact information:

Regional Director of Health Services
Marine Operations Center – Atlantic
439 W. York Street
Norfolk, VA 23510
Telephone 757.441.6320
Fax 757.441.3760
E-mail MOA.Health.Services@noaa.gov

Regional Director of Health Services
Marine Operations Center – Pacific
1801 Fairview Avenue East
Seattle, WA 98102
Telephone 206.553.8704
Fax 206.553.1112
Email MOP.Health-Services@noaa.gov

Prior to departure, any visitors must provide a listing of emergency contacts to the Executive Officer, with the following information: name, address, relationship to member, and telephone number.

C. Shipboard Safety

Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals or clogs) outside of private berthing areas is not permitted. Steel-toed shoes are required to participate in any work dealing with suspended loads, including CTD deployments and recovery. The ship does not provide steel-toed boots. Hard hats are also required when working with suspended loads. Work vests are required when working near open railings and during small boat launch and recovery operations. Hard hats and work vests will be provided by the ship when required.

D. Communications

Due to a new directive from Marine Operations Center, the ship must charge visitors for all calls made on the cell or sky-cell telephone. INMARSAT, Sky Cell and cellular communication costs shall be reimbursed to the ship for telephone calls made by all visitors. Currently, Sky Cell and cellular telephone services are about \$0.89 per minute and INMARSAT Mini-M is around \$1.68 per minute for voice. These charges will be assessed against the program after the ship receives the bill. There is generally a three-month delay receiving the bill for review.

E. IT Security

Any computer that will be hooked into the ship's network must comply with the *NMAO Fleet IT Security Policy* prior to establishing a direct connection to the NOAA WAN. Requirements include, but are not limited to:

- (1) Installation of the latest virus definition (.DAT) file on all systems and performance of a virus scan on each system.
- (2) Installation of the latest critical operating system security patches.
- (3) No external public Internet Service Provider (ISP) connections.

Completion of these requirements prior to boarding the ship is preferable.

Non-NOAA personnel using the ship's computers or connecting their own computers to the ship's network must complete NOAA's IT Security Awareness Course within 3 days of embarking.

F. Foreign National Guests Access to OMAO Facilities and Platforms

N/A – Foreign Nationals are NOT anticipated to be aboard for project:
S-K919-TJ-10, Western Sentry Project

Appendices:

1. NOAA Ship Thomas Jefferson, Deepwater Horizon Response, Leg 3 Proposal



NOAA Ship Thomas Jefferson Deepwater Horizon Response Leg 3 Proposal

June 8, 2010



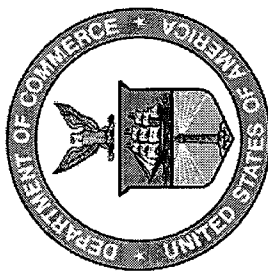
Status After Leg 2



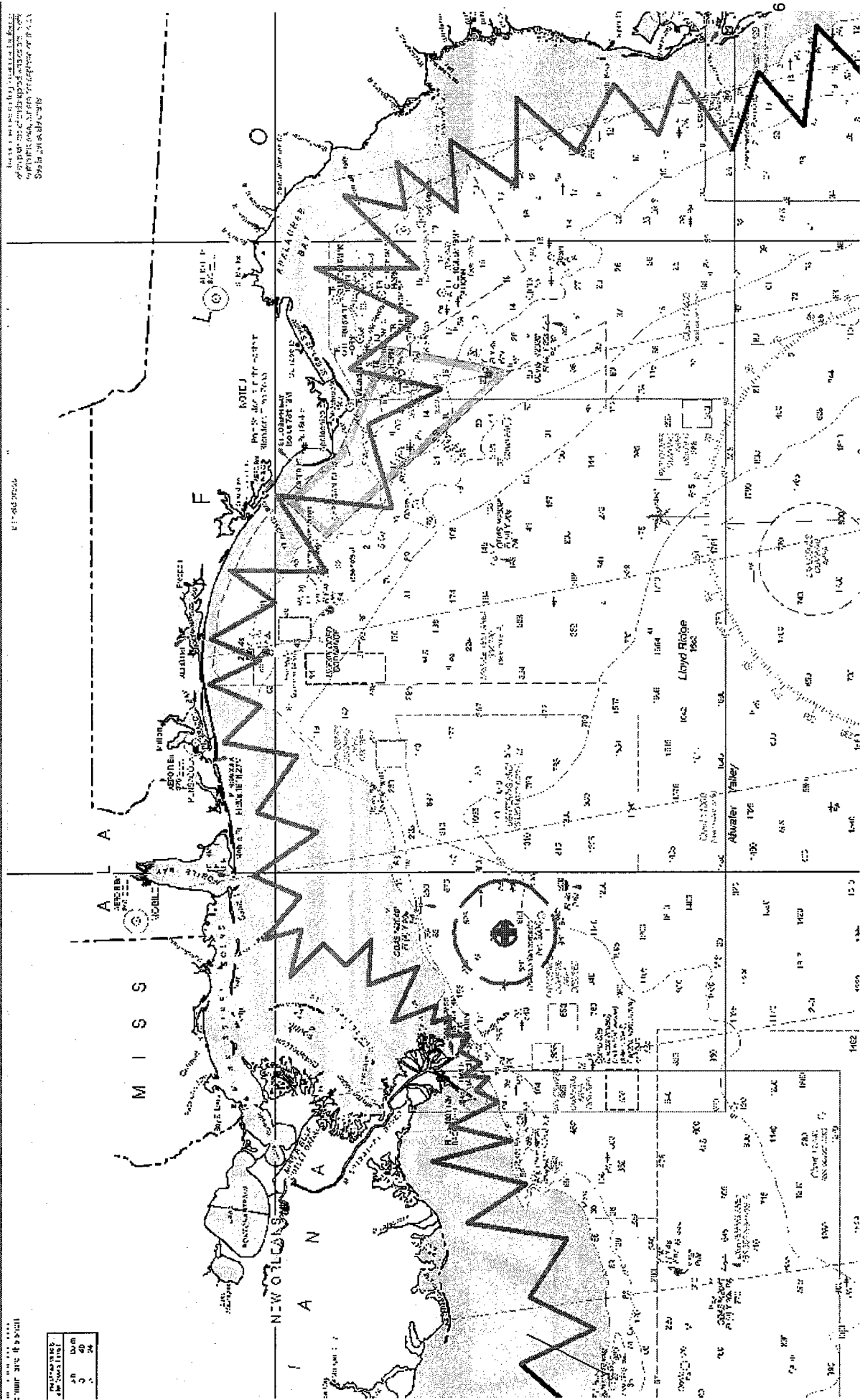
- Hypothesis developed for acoustic signature of anomalous water mass near site
- MVP work shown to be effective way to take casts over large areas quickly.
- Baseline CTD transects in Western Gulf half complete
- Coast Survey projects in Galveston and Texas Fairways need two days of work to "square off"



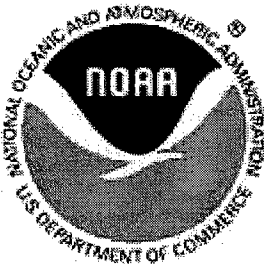
MVP Proposed Area of Operations



NOAA FORM 10-67 (Rev. 1-67)
 U.S. GOVERNMENT PRINTING OFFICE: 1967 O 354-000
 5010-108-01



Scale	1:50,000
1 inch = 1.25 miles	
1 centimeter = 0.625 miles	



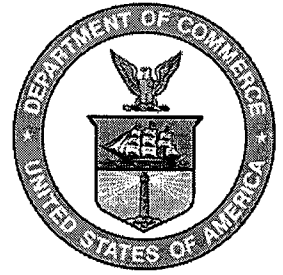
Coastal Zone CONOPS



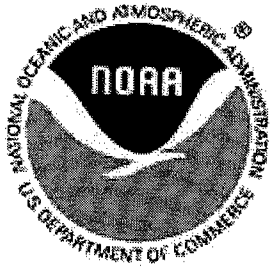
- 1300 LNM of MVP and acoustic transects from Port Fourchon to Tampa Bay
 - Casts taken 6-10 per hr, approx 1 NM resolution
- If “Hot Spots” are discovered in the fluorescence or DO,
 - the area is further developed with MVP
 - water samples taken
 - shoreside component notified immediately.



Timeline-TJ DWH Leg 3



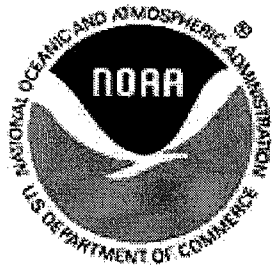
- (2 Days)-"Square off" Coast Survey work in Western Gulf of Mexico.
- (4 days)-MVP and CTD Baselines working from Galveston east toward the spill site-Continuation from unfinished work from Leg 2
- (5 days)-Inshore MVP transects from 20m curve to 100m curve-Port Fourchon to Mobile
- (3 days)-Targeted acoustic and CTD work near spill site, at direction of Acoustics Group
- (4 days)-MVP and CTD Baselines working from Mobile to Key West



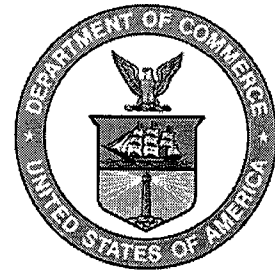
Leg 3 Capabilities



- Multiple echosounders (12, 38, 200 kHz) with water column capabilities operate continuously along track
- An MVP with a multi-sensor freefall fish takes a cast 4-6 times per hour. The sensor package includes a Turner Crude Oil Sensor, dissolved oxygen, CTD, and sound speed sensor.
- Static cast taken with CTD, water samples are taken at depth to ground truth any evidence of oil in the other two sensors.
- HAZMAT-equipped and trained crew
- 24 hour operations on all sensors

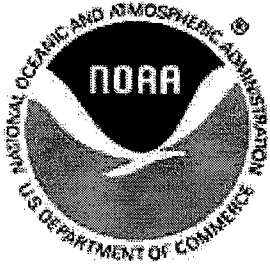


Why this combination?



- Efficient
 - Ship can steam at 9 kts while collecting both sonar and in situ measurements-can cover up to 200 LNM per day
- Rigorous
 - Water samples ground truth the Turner Crude Oil sensor, which ground truths the sonar.
- High resolution
 - The sonar is continuous along track, which may permit detection of the edges of submerged masses





Leg 3 Objectives



- Close out open Coast Survey projects in Western Gulf
- Establish baseline water chemistry in Western Gulf 50m-1200m, 50 mile transects
- Develop concept of operations for use of the MVP for widespread submerged oil detection and mapping in coastal zone
- Collect additional acoustic and CTD data around the dynamic disaggregated clouds of dispersed oil as requested by the acoustic steering group.

Debora.R.Barr

From: James.C.Rowe@noaa.gov
Sent: Wednesday, June 16, 2010 11:18 AM
To: xo.bell.shimada
Cc: CO Thomas Jefferson; Dale F Burgin
Subject: Fwd: Re: TJ_OMAO_PI_Western_Sentry2_06112010_v1.docx
Attachments: Fwd: Re: TJ_OMAO_PI_Western_Sentry2_06112010_v1.docx (314 KB)

Mark,

You were the most recent visitor to Key West. Could you share any current P.O.C. and relevant info with the TJ to smooth their port plans. Please "cc" me on the response so I can update my info.

Shep - let me know if we can help out with anything.

Jim

Debora.R.Barr

From: CO.MOC.Atlantic@noaa.gov
Sent: Tuesday, June 15, 2010 11:30 PM
To: James C Rowe
Cc: MOA CO Thomas Jefferson
Subject: Fwd: Re: TJ_OMAO_PI_Western_Sentry2_06112010_v1.docx
Attachments: Re: TJ_OMAO_PI_Western_Sentry2_06112010_v1.docx (313 KB)

Jim, note that TJ will be pulling into Key West on July 2nd. I/m betting that they will be full up due to the Key Incident Command standup. Check with the ship to see if they need assistance with port arrangements.

CO

Debora.R.Barr

From: Chad Smith [chad.smith@darkwatermarine.com]
Sent: Tuesday, June 15, 2010 6:26 PM
To: CO Thomas Jefferson; xo.thomas.jefferson
Subject: Mission Coordination -M/V Jack Fitz

Hi Shep,

Has anyone talked to you about rendezvous with the NRDA chartered boat Jack Fitz to run some acoustics over their water sample station? If you were inclined this would happen fri, sat or sun at the convenience of the TJ. The goal is to give a cross section of both sample lab analysis and acoustic data.

Chad

--

Chad Smith
Vessel Operations Chief
NOAA-NRDA - Subsurface Monitoring Unit
Deepwater Horizon Incident Command - Houma, LA
(617)-999-4163
www.darkwatermarine.com

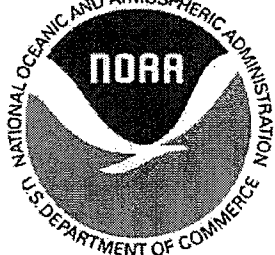
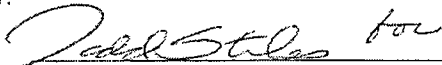
Debora.R.Barr

From: CO Thomas Jefferson [CO.Thomas.Jefferson@noaa.gov]
Sent: Tuesday, June 15, 2010 9:08 PM
To: daniel wright
Cc: _NMAO MOA OPS Thomas Jefferson
Subject: MVP Processing Path

Dan-do you have it working? What is next?

--

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

	OFFICE OF MARINE AND AVIATION OPERATIONS	PROCEDURE 1110-01	VERSION 1.0
		EFFECTIVE DATE 6/18/2010	
	AUTHORIZED BY:  RDML Philip M. Kenul, NOAA Director, Marine and Aviation Operations Center	REVIEW DATE Continuous	
		RESPONSIBLE POSITION Chief, Fleet Standardization Office	

NOAA SHIP OPERATIONS NEAR DEEPWATER HORIZON EFFLUENTS

1. PURPOSE

- 1.1 To provide procedures for decontaminating decks and equipment that has become contaminated with Deepwater Horizon Oil Spill Effluents.
- 1.2 This document also provides procedures for reducing exposure to contaminants through safe practices.

2. SCOPE

- 2.1 This document applies to all NOAA vessels operating in the Gulf of Mexico and in areas potentially affected from the Deepwater Horizon incident.
- 2.2 This document remains active until directed otherwise by OMAO's Fleet Standardization Office (FSO).

This procedure does not relieve the Commanding Officer from making decisions to ensure the safety of the crew and the vessel.

3. PROCEDURES AND RESPONSIBILITIES

3.1 Safety and Health During Operations

3.1.1 General

- A. Crude oil is a mixture of a wide variety of chemical substances, such as: hydrogen sulfide, carbon dioxide, carbon monoxide, benzene, lead, nitrogen oxides, sulfur dioxide, and volatile organic compounds. In the event of an oil spill many of these substances vaporize and become airborne.
- B. Potential exposures to these volatile compounds are through contact with the skin, ingestion, or breathing the fumes.
- C. Potential health effects include headache, nausea, dizziness, shortness of breath, fatigue, vomiting, coughing, throat irritation, eye irritation, disorientation, altered level of consciousness, and drowsiness. Refer to NOAA Health Services Procedure for Evaluating and Managing Occupational Exposure aboard OMAO vessels operating in the vicinity of the Deep Water Horizon oil spill. Located: <https://inside.oma.noaa.gov/medical/index.html> *Occupational Health Biological Monitoring App. A*
- D. All required Personal Protective Equipment (PPE) shall be properly utilized at all times during decontamination activities and other times as warranted.
- E. Proper hazard identification and risk management processes shall be implemented and involve all personnel.
- F. Anyone observing unsafe activities has the authority to stop work that is unsafe.

3.1.2 Avoiding Contact

- A. Avoid sampling in highly contaminated zones; do not sample if heavy surface oil is visible unless the sampling is required for scientific purposes and can be safely completed.
- B. Avoid surface oil during transits, when possible.
- C. Work upwind when operating near surface oil if possible.
- D. Use Take Action Levels (TAL, at end of document) to mitigate airborne exposure when measurements exceed specified levels.
- E. Consult Office of Response and Restoration website for map (updated daily) of nearshore and offshore surface oil trajectories:
[http://response.restoration.noaa.gov/topic_subtopic_entry.php?RECORD_KEY%28entry_subtopic_topic%29=entry_id,subtopic_id,topic_id&entry_id\(entry_subtopic_topic\)=809&subtopic_id\(entry_subtopic_topic\)=2&topic_id\(entry_subtopic_topic\)=1](http://response.restoration.noaa.gov/topic_subtopic_entry.php?RECORD_KEY%28entry_subtopic_topic%29=entry_id,subtopic_id,topic_id&entry_id(entry_subtopic_topic)=809&subtopic_id(entry_subtopic_topic)=2&topic_id(entry_subtopic_topic)=1)

3.1.3 Air Monitoring

- A. NOAA ships that will be in the vicinity of oil-contaminated waters will be provided air monitoring equipment.
- B. The CO shall ensure personnel responsible for air monitoring are familiar with their specific air monitors.
- C. Monitor for Lower Explosive Limit (LEL), volatile organic compounds (VOCs), Hydrogen Sulfide (H₂S), Carbon Monoxide (CO) and benzene
- D. Monitoring protocol:
 - Calibrate monitoring equipment daily
 - Continuously monitor deck and internal spaces during active oil clean up and sampling activities
 - At all other times, monitor CO designated spaces at least every four hours, at beginning of the watch
 - The CO shall designate monitoring locations throughout vessel: include but not limited to: fantail, engine room, lounge, galley, bridge, and select staterooms.
 - Use monitor in continuous mode with alarms activated for action levels at a location determined by CO.
 - If conditions change (significant increase of oil in the operating area, an increase in VOC readings, or dangerous wind shifts) monitor air immediately and move to a safer area.
- E. Record monitoring results, digitally or on log (see attached log)
- F. Submit air monitor results to CDR Les Cruise once per week for review and storage
- G. At no time shall air monitoring activities endanger personnel

3.1.4 Exceeding Air Quality Take Action Levels:

- A. TAL for CO, H₂S, VOC, LEL and benzene appear in a table at the end of this procedure
- B. Implement listed actions when measurements exceed levels for specified duration of time

3.1.5 Air Quality Below Deck

- A. Install activated charcoal filters on air intakes as necessary.
- B. Change filters weekly or as needed according to air monitor results
- C. Record and provide charcoal filter performance and filter change out schedule with other vessels and MEB

3.1.6 Personal Protective Equipment (PPE)

- A. Respiratory Protection
 - Vessels should not be in a situation conducting operations where continuous respiration use is required. Continuous respirator use shall only be in the event the ship is taking action to seek fresh air.

- Personnel directly involved with decontamination activities may wear respirators as added protection. Air quality shall be closely monitored and exposure times limited.
- All respirators shall be equipped with Organic Vapor (OV) cartridges
- Cartridges shall be replaced as required by the manufacturer
- All personnel aboard NOAA ships must have medical clearance to wear a respirator
- All personnel aboard NOAA ships must have current respirator fit test
- All personnel aboard NOAA ships are required to shave their face where the respirator makes a seal against the face

B. Other PPE

- For any action levels triggering the use of half-face respirators, non-vented goggles are recommended to reduce the potential for eye irritation.
- See "Decontamination Activity" section below for additional required PPE.
- Circumstances will dictate when overboots, faceshields, and Tyvek suits will be required

3.1.7 Drinking Water

- Ships operating in Gulf of Mexico will be fitted with in-line oil monitoring systems that will alarm at preset levels allowing sufficient time for ship's water making units to be secured. (Units are currently on expedited emergency procurement; projected arrival is within 2 weeks with planned installation by ship's force). Until the in-line monitors are installed, Commands working in immediate proximity to contaminated waters shall ensure that backup potable water is stored onboard in appropriate tanks, in water bladders or plans for receiving water from water barges are in place. Commands may request potable water from a designated supply vessel, *M/V Fox*, available on channel 16 VHF or contact personnel at the Unified Command Subsurface Monitoring Unit at: ops.smu@noaa.gov for information and additional assistance. Vessels working outside the Uncertainty Boundary as published by NOAA's Office of Response and Restoration (see sec. 3.1.2 for link to site) are advised to exercise prudent judgment as when to secure their water making capability.
- After operating in or near surface oil, prior to activating potable water generation systems, the inlet lines shall be back-flushed to clean out contaminants. Activated charcoal filters on the inlet side further help the filtering process. Filters may be obtained from MEB.

3.2 Decontamination Activity

3.2.1 Training Requirement for NOAA shipboard personnel associated with the Deepwater Horizon scientific sampling missions. OSHA document "Training Marine Oil Response Workers under HAZWOPER Standards" establishes requirements for training levels associated with oil spill response including NOAA shipboard personnel working in immediate proximity to oil tainted waters and having direct contact with oil coated, nets, lines, cables and equipment used in scientific mission sampling. Based on ship schedules and available training, at a minimum, all personnel in the Deck and Survey Departments, Mates and NOAA Commissioned Officers shall have the 24 hr HAZWOPER training. Those personnel working on NOAA ships working outside the Uncertainty Boundary shall at a minimum have 1 person with 24 hr HAZWOPER training.

3.2.2 Setting Up Decontamination Zone

- A. The CO shall ensure that personnel tasks with Decon activities are training in Hazmat procedures
- B. Establish a perimeter and restrict access to the area
- C. Limit the area on the ship where oiled gear is brought aboard or stored, use the Decontamination Zone if possible

- D. Arrange three totes or "kiddy pools" to contain soapy water, rinse water and absorbent pads/drying station
- E. If gear is too large to fit within Decon stations establish a larger Decontamination (Decon) Area prior to bringing gear aboard. At minimum block scuppers and drains with oil absorbent material; surround perimeter with absorbent booms, oil containment socks, and lay down a layer of plastic on the deck

3.2.3 Performing Decontamination

- A. Contaminated gear (boots, gloves, suits, brushes) shall be removed in the Decon zone and disposed of in designated containers. Individuals shall be cleaned in the Decon Zone; Gear and individuals will not leave the Decon Zone until cleaned, except in an emergency.
- B. Decon crews shall wear appropriate PPE while cleaning gear and individuals
 - Decon Team shall don the following PPE: rubber gloves, goggles or faceshield, Tyvek suits, dust mask
 - Respirators are not required, but may be worn as additional protection.
 - Remove contact lenses from eyes and all jewelry prior to engaging in Decon activities.
- C. Clean equipment in a manner appropriate for that equipment.
- D. Properly store all waste generated by the Decon in a secure location, label as oily materials, NOT HAZMAT, hold for onshore disposal using approved waste management practices.

3.2.4 Decon Rinse Water

- A. Soapy oil-water mixture must be stored aboard for onshore disposal
- B. Rinse water with no soap can be processed through the oily water separator

3.2.5 Gear:

- A. When hauling gear, visually inspect for contamination (tar balls, crude oil, other oily signs)
- B. Guidance for nets:
 - Contaminating a net is unlikely however, procedures are provided as a mitigation measure in the event it occurs.
 - For mild contamination, rinse net with fire hose as it is recovered; confer with scientists to determine if net is too soiled for continued use
 - For moderate to severe contamination, the catch may be released in the water (be sure to confer with scientists before release); log in deck log
 - Store soiled nets on deck wrapped in tarps or plastic; use absorbent pads to capture drips; dispose of or clean nets on shore; retain cleaning/disposal receipts for future replacement.
 - Use non-absorbent synthetic material nets, when possible
 - If "tar balls" or other solid waste is observed visually on deck or in the gear, collect, store aboard as oily waste, and dispose on shore.
 - Report all contamination captured (see section 4.4 Effluent Tracking)
- C. Guidance for CTDs:
 - CTDs are highly sensitive to contamination, if at all possible deploy the CTD in clean water
 - If necessary, make a "window" in surface oil using vessel maneuvering, prop wash and fire hose wash. DO NOT use dispersants or detergent soaps (e.g. Dawn)

3.2.6 Decks

- A. Minimize deck contamination
 - Restrict contaminated material and individuals to the decon zone if possible
 - Workers must decontaminate, particularly their feet, when leaving Decon Zone
- B. Cleaning oily decks
 - Use absorbent pads to clean residue on deck, dispose of pads with other Decon material

- If sufficient oil remains to be a safety concern use an EPA Regional Response Team-approved surface washing agents to remove the oil:
 - PES-51(Practical Environmental Solutions)
 - Follow label instructions for mixing
 - Spray the cleaning agent on a pad or mop and scrub the oily deck
 - Use a clean pad or mop to remove as much oil and cleaning agent as possible
 - Spray off the deck
 - Collect and store as much of the surface washing agent and oily water mixture as possible for shoreside disposal

3.2.7 Full Vessel

- A. Do not clean hull prior to departure from contaminated areas
- B. Before returning to port follow the Vessel Decontamination Plan as required by the Unified Command
- C. Contact VTS for intended port destination, to request nearest vessel decon station and the process to follow

3.3 When waste storage reaches capacity ship is required to come ashore and properly discharge the waste before returning to operations

4. RECORDS AND REPORTS

4.1 Reporting to NRC & EPA:

- Report oil or sheen on water caused by rinsing equipment that is contaminated with Deepwater Horizon effluent
- Complete NPDES corrective action assessment for discharges associated with Deepwater Horizon-contamination if they occur within 3nm of shore

4.2 Keep records of practices and lessons learned for future discussion and procedure improvement

4.3 Maintain cost documentation for all activities associated with the decontamination of individuals, gear and the vessel. This may include:

- PPE
- Detergents and surface washing agents
- Cleaning of gear
- Replacement of gear
- Disposal costs

4.4 Effluent Tracking:

NOAA vessels must report location of tarballs, liquid contamination and subsurface contamination collected during operations.

- Visit <https://www.st.nmfs.noaa.gov/confluence/display/OOP/Home> and find contact information for Subsurface Science Coordinator
- Contact them to report findings and for guidance on what requires reporting

5. REFERENCES

5.1 Deepwater Horizon Offshore Air Monitoring Plan for Source Control -
http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/incident_response/STAGING/local_assets/downloads_pdfs/Deepwater_Horizon_Response_Offshore_Air_Monitoring_Plan_rev4.pdf

5.2 NOAA Health Services Procedure for Evaluating and Managing Occupational Exposure Aboard OMAO Vessels Operating in the Vicinity of the Deepwater Horizon Oil Spill.

6. DEFINITIONS

No definitions required for this procedure.

7. NOTES

Effect on Other Documents: None.

Distribution:

Chemical	Take Action Level (all deck and living areas)	Monitoring Condition	Actions
VOC, ppm	50	Continuous levels for > 15 minutes	<ul style="list-style-type: none"> At the CO's discretion, utilize water hoses to break up sheen. Take additional benzene specific readings to determine benzene levels. Re-orient vessel into wind.
VOC, ppm	100	Continuous levels for > 10 minutes	<ul style="list-style-type: none"> Increase airflow with portable industrial fans Don half-face, OV cartridge respirators to continue working in the area. Non-essential personnel should relocate to an area of lower concentration (i.e., move to the living quarters, lounge or galley) Begin recovery of any deployed gear. Move vessel off location if concentration does not decrease with re-orientation.
VOC, ppm	300	Continuous levels for > 10 minutes	<ul style="list-style-type: none"> Don full-face, or add goggles in addition to half-mask OV cartridge respirators until concentrations are reduced. Move vessel off location to lower concentration.
Benzene, ppm	0.5 (on deck or in living quarters)	At least 3 samples over 15 minutes	<ul style="list-style-type: none"> Increase airflow with portable industrial fans. Don half-face, OV cartridge respirators. Non-essential personnel should relocate to an area of lower concentration (i.e., move to different location on the vessel or move to the living quarters or galley). Re-orient vessel into wind. At the CO's discretion, utilize water hoses to break up sheen. Recover all gear and prepare to transit.
Benzene, ppm	5	At least 3 samples over 15 minutes	<ul style="list-style-type: none"> Personnel should relocate to an area of lower concentration. Don full-face, or add goggles in addition to half-mask respirators until concentrations are reduced. Move vessel off location to lower concentration.
Carbon monoxide, ppm	25	Continuous levels for > 15 minutes	<ul style="list-style-type: none"> Evacuate immediate work area to area of lower concentration.
H ₂ S, ppm	5	Continuous levels for	<ul style="list-style-type: none"> Evacuate immediate work area to area

		> 15 minutes	of lower concentration.
--	--	--------------	-------------------------

Debora.R.Barr

From: Doug Smith [Douglas.W.Smith@noaa.gov]
Sent: Friday, June 18, 2010 11:52 AM
To: James C Rowe; _OMAO MOA CO Thomas Jefferson; _OMAO MOA XO Thomas Jefferson;
_OMAO MOA CO Oregon; _OMAO MOA XO Oregon
Subject: PPE in the mail

Jim, and Commands,
PPE has been shipped to Pascagoula.
Each ship should receive the following:

Goggles: 40 pair
Over Boots: 2S, 6M, 6L, 2XL (16 pairs total)
respirators: 6 S, 28 M, 6 L (plus a few extra M if ships need to switch out sizes)
replacement filters: 8 Personal eye wash: 1 case (24 bottles)

(Jim, total respirators received should be 12 S, 78 M, 12 L, and 24 replacement cartridges.)

Honestly we hope you won't need any of this, but at least you'll be prepared if the need arises. If anything else comes up, please let us know.

Thanks,
Doug

Also, we are working towards fixed air monitoring stations on board for real time data as well as some additional equipment for water sampling (potable being the main concern).

Debora.R.Barr

From: Eric M. Johnson [Eric.Johnson@noaa.gov]
Sent: Friday, June 18, 2010 10:27 AM
To: 'CO Thomas Jefferson'
Subject: RE: Contact information for Joint Information Center at Houma Incident Command Center

Please note that there is more than one Eric Johnson in NOAA, with similar email addresses. Your email may have been intended for eric.t.johnson@noaa.gov . Please make the necessary corrections prior to resending.

Sincerely,

Eric Johnson

NEXRAD RF
816-823-1057 ext. 241
National Weather Service
National Reconditioning Center
Kansas City, MO

-----Original Message-----

From: CO Thomas Jefferson [mailto:CO.Thomas.Jefferson@noaa.gov]
Sent: Monday, June 14, 2010 3:35 PM
To: Sanders, Richard W LCDR; Eric Johnson
Cc: David L. Hall
Subject: Re: Contact information for Joint Information Center at Houma Incident Command Center

Eric or Richard,

There will be a reporter from KPRC-TV on TJ in the morning. Please pass it on to the Joint Information Center. The numbers below go to an auto-attendant with no outlet for a person or message. I tried going to the one for reporters. No answer, and the mailbox was not accepting messages.

I have been scolded repeatedly for not telling the JIC about public contacts. If they want more information on this visit or other media outreach efforts, please ask them to provide an email address or a phone number that goes to an actual person. I would also be pleased to hear from them at the number below.

Thanks,

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Sanders, Richard W LCDR wrote:

> CDR Smith,

>

> Contact information for Joint Information Center at Houma Incident

> Command

Center.

>

> I would suggest just "informing" them that you are going to have a
reporter aboard.

>

> These are the phone numbers:

> 985-902-5231

> 985-902-5240

>

> LCDR Richard Sanders

> U.S. Coast Guard

> 985-772-4469

>

>

Debora.R.Barr

From: Eric M. Johnson [Eric.Johnson@noaa.gov]
Sent: Friday, June 18, 2010 10:31 AM
To: 'CO Thomas Jefferson'
Subject: RE: [Fwd: [Fwd: [Fwd: [Fwd: Re: [Fwd: Got the CTD, still looking for a chemist.]]]]]

Please note that there is more than one Eric Johnson in NOAA, with similar email addresses. Your email may have been intended for eric.t.johnson@noaa.gov. Please make the necessary corrections prior to resending.

Sincerely,

Eric Johnson

NEXRAD RF
816-823-1057 ext. 241
National Weather Service
National Reconditioning Center
Kansas City, MO

From: CO Thomas Jefferson [mailto:CO.Thomas.Jefferson@noaa.gov]
Sent: Monday, June 14, 2010 11:05 AM
To: Eric Johnson
Subject: [Fwd: [Fwd: [Fwd: [Fwd: Re: [Fwd: Got the CTD, still looking for a chemist.]]]]]

----- Original Message -----

Subject: [Fwd: [Fwd: [Fwd: Re: [Fwd: Got the CTD, still looking for a chemist.]]]]
Date: Mon, 14 Jun 2010 10:40:37 -0500
From: Gunnar Lauenstein <Gunnar.Lauenstein@noaa.gov>
To: Shep Smith <Shep.Smith@noaa.gov>
CC: Dennis.Apeti@noaa.gov, Andrew Mason <Andrew.Mason@noaa.gov>, Terry McTigue <Terry.Mctigue@noaa.gov>

Shep,

I am the Branch Chief of the group that Dennis Apeti and Kimani Kimbrough are in. Dr. Apeti is able to participate in the upcoming cruise of the Thomas Jefferson. Can you supply information on when and where the ship will be sailing? If the Thomas Jefferson will be sampling at the location of where oil is being discharged into the sea, I would recommend that Andrew Mason of my branch also be part of the scientific crew. Andrew and I just returned from two weeks aboard the RV Ocean Veritas which was taking many of the same measurements as proposed for the upcoming cruise aboard your ship. Andrew handled all of the data aboard the Veritas, helped locate CTD cast sites and also helped with sample collections. He may be able to provide useful information about the conditions at the oil release site as well as useful information about how well sampling between the cruises will complement each other.

My contact information is below, also my cell phone number is 443- 472-2653.

Gunnar

--

Gunnar Lauenstein, Ph.D.
NOAA, National Centers for Coastal Ocean Science
1305 East West Hwy.
SSMC4 N/SCI1
Silver Spring, MD 20910
(301) 713-3028 x 152
Gunnar.Lauenstein@noaa.gov

Dr. Apeti or Dr. Kimbrough,

I am the captain (and chief scientist) of the NOAA Ship Thomas Jefferson. I hear from Jacqueline Rousseau, that you are accomplished coastal chemists. I would be interested in having one of you aboard for our just-assigned cruise back to the spill area. We will be using acoustics, CTD sampling, and a Turner crude-oil fluorometer on a Moving Vessel Profiler. We will work baselines in un-oiled areas, the area right around the site, and a long zig-zag coastal transect. We have acoustics expertise, ctd operations, and water sampling covered. What we need help with is adaptive mission planning based on results from the MVP and CTD (help us figure out what is "normal" vs "abnormal"). We will have good visualization tools.

Could one of you be available in Galveston, TX by Monday, ashore in Key West on July 2? A shorter time is possible if you are flexible about where we put you ashore. What expenses (travel expenses, salary, etc) would you need to participate?

Best,

Shep

----- Original Message -----

Subject: Re: [Fwd: Got the CTD, still looking for a chemist.]
Date: Fri, 11 Jun 2010 16:04:44 -0400
From: Jacqueline J. Rousseau <Jacqueline.J.Rousseau@noaa.gov>
To: 'shep.smith@noaa.gov' <Shep.Smith@noaa.gov>

Dennis Apeti at NCCOS is a PhD chemist so is Kimani Kimbrough also PhD

From: Shep Smith <shep.smith@noaa.gov>
To: _NOAA All LCDPers <noaa.all.lcdpers@noaa.gov>
Sent: Fri Jun 11 15:54:58 2010
Subject: [Fwd: Got the CTD, still looking for a chemist.]

LCDP,

What a crowd! Thanks for all the good suggestions.

We have a CTD/rosette. We have a couple of leads on a coastal chemist, but no deal yet. A NOAA person would be ideal. I would think NCCOS and OAR would have a few...

Best,

Shep

--

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

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--

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Debora.R.Barr

From: Eric M. Johnson [Eric.Johnson@noaa.gov]
Sent: Friday, June 18, 2010 10:33 AM
To: 'CO Thomas Jefferson'
Subject: RE: [Fwd: [Fwd: Re: EPA rep for TJ June 15 Cruise]]

Please note that there is more than one Eric Johnson in NOAA, with similar email addresses. Your email may have been intended for eric.t.johnson@noaa.gov . Please make the necessary corrections prior to resending.

Sincerely,

Eric Johnson

NEXRAD RF
816-823-1057 ext. 241
National Weather Service
National Reconditioning Center
Kansas City, MO

From: CO Thomas Jefferson [mailto:CO.Thomas.Jefferson@noaa.gov]
Sent: Sunday, June 13, 2010 10:13 AM
To: Steve Murawski
Cc: Eric W Berkowitz; Harold.Emmons@noaa.gov; Glen Rice; Eric Johnson
Subject: Re: [Fwd: [Fwd: Re: EPA rep for TJ June 15 Cruise]]

Roger. We are doing our best to get one, but it sounds like they have different ideas about their role than you described. I trust Team Houma will get it all figured out.

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Steve Murawski wrote:

well Brooks McCall was in the bulls eye and you were further out. I want them to take charge of the water samples and Have some ideas on extent we will discuss.

-Steve

CO Thomas Jefferson wrote:

All,

I am not sure what this means. Trey, Berk-We did get out ahead of you on this, sorry. We'll let you take it from here.

Shep

----- Original Message -----

Subject:[Fwd: Re: EPA rep for TJ June 15 Cruise]

Date:Sun, 13 Jun 2010 10:58:11 -0400

From:xo.thomas.jefferson <XO.Thomas.Jefferson@noaa.gov>

To:CO.Thomas.Jefferson@noaa.gov

--
CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Subject:

Re: EPA rep for TJ June 15 Cruise

From:

Todd.Brandi@epamail.epa.gov

Date:

Sun, 13 Jun 2010 10:37:59 -0400

To:

"xo.thomas.jefferson" <XO.Thomas.Jefferson@noaa.gov>

To:

"xo.thomas.jefferson" <XO.Thomas.Jefferson@noaa.gov>

Hi LT Gruccio,

The need for an EPA passenger depends on the sampling plan that you all will follow on this cruise. We have been attempting to staff only boats that follow the same sampling plan as the Brooks McCall. I understand that this was not the case for the last TJ cruise and I hear you all will be following the same sampling plan as the last cruise. My management is taking another look at the need for EPA on board the TJ. I will try to have that answer for you this evening.

I apologize for not having the answer at this time but thank you very much for inquiring.

Brandi

Sent by EPA Wireless E-Mail Services

----- Original Message -----

From: "xo.thomas.jefferson" [XO.Thomas.Jefferson@noaa.gov]

Sent: 06/13/2010 09:41 AM AST

To: Brandi Todd

Subject: EPA rep for TJ June 15 Cruise

Hi Brandi:

We were informed that we needed to have an EPA rep on board for this next trip that will go from June 15 - July 02. We haven't heard anything since Friday (of course it's the weekend). I thought I would check with you to see if you might have any more info? We just want to make sure that whoever it is has a TB test done in time. Also knowing the gender would help too. We enjoyed having Mark with us!

Thx!

LT Denise Gruccio

Debora.R.Barr

From: Eric M. Johnson [Eric.Johnson@noaa.gov]
Sent: Friday, June 18, 2010 10:31 AM
To: 'CO Thomas Jefferson'
Subject: RE: [Fwd: Re: [Fwd: Got the CTD, still looking for a chemist.]]

Please note that there is more than one Eric Johnson in NOAA, with similar email addresses. Your email may have been intended for eric.t.johnson@noaa.gov . Please make the necessary corrections prior to resending.

Sincerely,

Eric Johnson

NEXRAD RF
816-823-1057 ext. 241
National Weather Service
National Reconditioning Center
Kansas City, MO

From: CO Thomas Jefferson [mailto:CO.Thomas.Jefferson@noaa.gov]
Sent: Monday, June 14, 2010 11:03 AM
To: 'Tracy.K.Collier@noaa.gov'
Cc: jcragan@asascience.com; Eric Johnson
Subject: [Fwd: Re: [Fwd: Got the CTD, still looking for a chemist.]]

Tracy,

We are following protocols and chain of custody protocols from NRDA, as provided by the command center in Houma.

Eric Johnson has volunteered to take over point on finding a coastal oceanographer/chemist. He is cced on this email. Jenna Cragan helped us get set up with sampling protocols and could answer any specific questions.

Shep

----- Original Message -----

Subject:Re: [Fwd: Got the CTD, still looking for a chemist.]
Date:Mon, 14 Jun 2010 11:37:33 -0400
From: Tracy Collier <Tracy.K.Collier@noaa.gov>
To:CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
CC:Juli Trtanj <Juli.Trtranj@noaa.gov>, "Mary.Erickson@noaa.gov" <Mary.Erickson@noaa.gov>, "Shep.Smith@noaa.gov" <Shep.Smith@noaa.gov>
References:<888D35080D24854AB67E0FE7147601F304BDF2C8A2@Vmail51.noaa.nems>
<4C14D7F0.5060200@noaa.gov>

CDR--I've been checking with some folks, no silver bullet has come up yet that could be implemented by

tomorrow. I have one more person to query on the west coast, and if I can reach him today I'll let you know if any other options might work.

I'm getting a few questions about the protocol you will be using for the sample collection and preparation/storage for subsequent detailed analysis, do you know who prepared that for your cruise ops plan?

Tracy

On Jun 13, 2010, at 9:06 AM, CO Thomas Jefferson wrote:

Hi Julie,

We don't have any on-board testing capability. I hope (but don't know) that the laboratory work would turn up the presence of dispersants in the samples we send in.

We are planning to get underway on Tuesday AM.

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Juli Trtanj wrote:

Thanks for this information. When are you deploying? And are you planning to test for dispersants in the water samples?

--Juli

From: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
To: 'Tracy.K.Collier@noaa.gov' <Tracy.K.Collier@noaa.gov>
Cc: Mary Erickson <Mary.Erickson@noaa.gov>; 'juli.trtanj@noaa.gov' <Juli.Trtanj@noaa.gov>; 'shep.smith@noaa.gov' <Shep.Smith@noaa.gov>
Sent: Sat Jun 12 14:15:36 2010
Subject: Re: [Fwd: Got the CTD, still looking for a chemist.]

Hi Tracy,

We have teflon-lined Niskin bottles, appropriate bottles and water sampling procedures, as well as chain of custody procedures.

The hole I see is in our onboard expertise in interpretation of fluorescence, dissolved oxygen, salinity, temperature, and turbidity within the coastal zone. We need onboard expertise to be able to do preliminary analyses to guide our hour-by-hour adaptive mission planning. Essentially, we are looking for markers for submerged oil in the coastal zone and want to reduce the numbers of other coastal phenomena that might confound our interpretations. If there is such a thing as a "field test" for PAH, that might be really helpful in sorting out false positives right away as well. The "official" results will be from the lab.

Best regards,

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Mary Erickson wrote:

Yes, I believe they have the bottles, but are looking for a chemist. If you have specific questions, feel free to contact CDR Shep Smith, CO of the Thomas Jefferson.

Mary

From: Tracy Collier <Tracy.K.Collier@noaa.gov>
To: Mary Erickson <Mary.Erickson@noaa.gov>
Cc: 'juli.trtanj@noaa.gov' <Juli.Trtanj@noaa.gov>
Sent: Sat Jun 12 11:52:58 2010
Subject: Re: [Fwd: Got the CTD, still looking for a chemist.]

I assume you're looking for analyses for oil-derived compounds (PAHs?) in water samples, and is the interest in doing on-board analyses in order to get near real-time information during the cruise?

A major consideration if that's the intent is to have the right type of niskin bottle for the rosette, or at least the right lining (Teflon is often used for chemical contaminants).

If I have a little more background I may be able to give more useful advice!

Tracy

On Jun 12, 2010, at 11:47 AM, Mary Erickson wrote:

Thanks, Juli!

From: Juli Trtanj <juli.trtanj@noaa.gov>
To: 'Tracy.K.Collier@noaa.gov' <Tracy.K.Collier@noaa.gov>
Cc: 'Mary.Erickson@noaa.gov' <Mary.Erickson@noaa.gov>
Sent: Sat Jun 12 11:32:29 2010
Subject: Fw: [Fwd: Got the CTD, still looking for a chemist.]

Hey Tracy,

Any thoughts here? We have maria delorenzo at CCEHBR and others there too. Also Gunnar, but I think he is tapped out. NWFSC has folks but they are analyzing, right?

So what abt one of the CCEHBR folks, or other suggestions?

From: Mary Erickson <Mary.Erickson@noaa.gov>
To: 'juli.trtanj@noaa.gov' <juli.trtanj@noaa.gov>
Sent: Fri Jun 11 16:34:12 2010
Subject: Fw: [Fwd: Got the CTD, still looking for a chemist.]

Juli,

Any ideas for this?

Mary

From: Shep Smith <shep.smith@noaa.gov>
To: _NOAA All LCDPers <noaa.all.lcdpers@noaa.gov>
Sent: Fri Jun 11 15:54:58 2010
Subject: [Fwd: Got the CTD, still looking for a chemist.]

LCDP,

What a crowd! Thanks for all the good suggestions.

We have a CTD/rosette. We have a couple of leads on a coastal chemist, but no deal yet. A NOAA person would be ideal. I would think NCCOS and OAR would have a few...

Best,

Shep

--

CDR Shepard Smith, NOAA
Commanding Officer
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Norfolk, VA 23510
757-647-0187

--

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Tracy K. Collier, Ph.D.
Science Advisor
Oceans and Human Health Initiative, NOAA
1315 East-West Highway, SSMC3 #10353
Silver Spring, MD 20910

p: 206-780-1931
m: 206-369-2779

tracy.k.collier@noaa.gov

Tracy K. Collier, Ph.D.
Science Advisor
Oceans and Human Health Initiative, NOAA
1315 East-West Highway, SSMC3 #10353
Silver Spring, MD 20910

p: 206-780-1931
m: 206-369-2779

tracy.k.collier@noaa.gov

--

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Debora.R.Barr

From: CO Thomas Jefferson [CO.Thomas.Jefferson@noaa.gov]
Sent: Tuesday, June 15, 2010 8:35 PM
To: Samuel Walker
Cc: Glen Rice; Steve Murawski; Shelby Walker; eric.w.berkowitz
Subject: Re: [Fwd: Re: Steve or Shelby-please read and respond asap]

Roger that. Carrying on.

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Samuel Walker wrote:

> CDR-
>
> I just spoke with Steve Murawski. Please proceed with current mission
> plan (Option 1) below.
>
> I will sort things out with NRDA tomorrow, when I am in Houma. There
> is a lot of anticipation in establishing complementary cruises, but
> even if you came straightaway there would only be 1 day of overlap
> with Fitz. We'll take on task of identifying another support vessel
> that can assist in the wellhead vicinity so the TJ can focus on
> acoustics once there.
>
> Glen - I know this poses a kink for our growing relationship with
> NRDA. But, I'll take responsibility for this one. We are very close
> to finally pulling this sort of thing off so we missed this
> opportunity. I'll smooth things out tomorrow. Thanks for your
> efforts in setting this up - we can help provide some big-picture
> context for the NRDA folks in why this specific reondevous missed.
>
> Safe sailing.
>
> Very best-
> Sam
>
>
>
>
> CO Thomas Jefferson wrote:
>>
>>
>> ----- Original Message -----
>> Subject: Re: Steve or Shelby-please read and respond asap
>> Date: Tue, 15 Jun 2010 20:01:06 -0400
>> From: Steve Murawski <Steve.Murawski@noaa.gov>
>> To: 'CO.Thomas.Jefferson@noaa.gov' <CO.Thomas.Jefferson@noaa.gov>
>>

>>
>>
>> Standing by
>>
>> -----
>> ---
>> *From*: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
>> *To*: Steve Murawski <Steve.Murawski@noaa.gov>
>> *Sent*: Tue Jun 15 19:59:38 2010
>> *Subject*: Re: Steve or Shelby-please read and respond asap
>>
>> The Subsea monitoring group crowd, Chad Smith, Glen Rice, Sam Walker,
>> etc. I heard that Sam Walker may be trying to call you.
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>> I think I laid out both sides of it, and I think both options have
>> some merit.
>> Shep
>> CDR Shepard Smith, NOAA
>> Commanding Officer
>> NOAA Ship Thomas Jefferson
>> 439 West York St
>> Norfolk, VA 23510
>> 757-647-0187
>>
>>
>> Steve Murawski wrote:
>>> Who at Houma?
>>>
>>> -----
>>> ----
>>>
>>> *From*: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
>>> *To*: 'Steve.Murawski@noaa.gov' <Steve.Murawski@noaa.gov>; Shelby
>>> Walker <Shelby.Walker@noaa.gov>
>>> *Cc*: Glen Rice <Glen.Rice@noaa.gov>
>>> *Sent*: Tue Jun 15 19:52:17 2010
>>> *Subject*: Steve or Shelby-please read and respond asap
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>>> days wellhead (mostly N and E), 8 days coastal working east. Option
>>> 2-Houma proposal-2 days transit, 4 days at wellhead doing joint ops
>>> with Jack Fitz, 12 days coastal working east.
>>>
>>> Please advise asap,
>>>
>>> Shep
>>>

>>> ----- Original Message -----
>>> Subject: Re: Mission Coordination -M/V Jack Fitz
>>> Date: Tue, 15 Jun 2010 18:38:52 -0500
>>> From: Chad Smith <chad.smith@darkwatermarine.com>
>>> Reply-To: chad.smith@darkwatermarine.com
>>> Organization: Darkwater Marine Services
>>> To: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
>>> CC: xo.thomas.jefferson <XO.Thomas.Jefferson@noaa.gov>, Glen
>>> Rice <Glen.Rice@noaa.gov>, Eric W Berkowitz
>>> <Eric.W.Berkowitz@noaa.gov>, 'Steve.Murawski@noaa.gov'
>>> <Steve.Murawski@noaa.gov>, 'larry.mayer@unh.edu'
>>> <larry.mayer@unh.edu>, Tom Weber <weber@ccom.unh.edu>, Samuel
>>> Greenaway <Samuel.Greenaway@noaa.gov>, Eileen Graham
>>> <EGraham@asascience.com>, Eric.W.Berkowitz@noaa.gov
>>> References: <4C17FDE2.2050801@darkwatermarine.com>
>>> <4C180D44.3030709@noaa.gov>
>>>
>>>
>>>
>>> Jim Payne,
>>>
>>> Please weigh in on a brief sumation of your desired joint operations
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>>> Shep Smith, the TJ's Captain.
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>>> Chad Smith
>>> Vessel Operations Chief
>>> NOAA-NRDA - Subsurface Monitoring Unit Deepwater Horizon Incident
>>> Command - Houma, LA
>>> (617)-999-4163
>>> www.darkwatermarine.com
>>>
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>>>
>>> --
>>> CDR Shepard Smith, NOAA
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>>> 439 West York St
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>> --

>> CDR Shepard Smith, NOAA
>> Commanding Officer
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>> Norfolk, VA 23510
>> 757-647-0187
>

Debora.R.Barr

From: Samuel Walker [Sam.Walker@noaa.gov]
Sent: Tuesday, June 15, 2010 8:27 PM
To: CO Thomas Jefferson
Cc: Glen Rice; Steve Murawski; Shelby Walker; eric.w.berkowitz
Subject: Re: [Fwd: Re: Steve or Shelby-please read and respond asap]

CDR-

I just spoke with Steve Murawski. Please proceed with current mission plan (Option 1) below.

I will sort things out with NRDA tomorrow, when I am in Houma. There is a lot of anticipation in establishing complementary cruises, but even if you came straightaway there would only be 1 day of overlap with Fitz.

We'll take on task of identifying another support vessel that can assist in the wellhead vicinity so the TJ can focus on acoustics once there.

Glen - I know this poses a kink for our growing relationship with NRDA. But, I'll take responsibility for this one. We are very close to finally pulling this sort of thing off so we missed this opportunity.

I'll smooth things out tomorrow. Thanks for your efforts in setting this up - we can help provide some big-picture context for the NRDA folks in why this specific reondevous missed.

Safe sailing.

Very best-
Sam

CO Thomas Jefferson wrote:

>
>
>
> ----- Original Message -----
> Subject: Re: Steve or Shelby-please read and respond asap
> Date: Tue, 15 Jun 2010 20:01:06 -0400
> From: Steve Murawski <Steve.Murawski@noaa.gov>
> To: 'CO.Thomas.Jefferson@noaa.gov' <CO.Thomas.Jefferson@noaa.gov>

> Standing by

> -----
> --

> *From*: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
> *To*: Steve Murawski <Steve.Murawski@noaa.gov>
> *Sent*: Tue Jun 15 19:59:38 2010
> *Subject*: Re: Steve or Shelby-please read and respond asap

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>> Subject: Re: Mission Coordination -M/V Jack Fitz
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>> From: Chad Smith <chad.smith@darkwatermarine.com>
>> Reply-To: chad.smith@darkwatermarine.com
>> Organization: Darkwater Marine Services
>> To: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
>> CC: xo.thomas.jefferson <XO.Thomas.Jefferson@noaa.gov>, Glen Rice
>> <Glen.Rice@noaa.gov>, Eric W Berkowitz <Eric.W.Berkowitz@noaa.gov>,
>> 'Steve.Murawski@noaa.gov' <Steve.Murawski@noaa.gov>,
>> 'larry.mayer@unh.edu' <larry.mayer@unh.edu>, Tom Weber
>> <weber@ccom.unh.edu>, Samuel Greenaway <Samuel.Greenaway@noaa.gov>,
>> Eileen Graham <EGraham@asascience.com>, Eric.W.Berkowitz@noaa.gov
>> References: <4C17FDE2.2050801@darkwatermarine.com>
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--
Samuel P. Walker, PhD
Senior Technical Data Manager
NOAA Integrated Ocean Observing System (IOOS) Program 1100 Wayne Avenue, Suite 1225 Silver
Spring, MD 20910 301.427.2450 - office
301.427.2073 - fax
803.807.1189 - mobile
sam.walker@noaa.gov
http://ioos.gov

Debora.R.Barr

From: XO.Bell.Shimada [XO.Bell.Shimada@noaa.gov]
Sent: Wednesday, June 16, 2010 2:40 PM
To: James.C.Rowe@noaa.gov
Cc: CO Thomas Jefferson; Dale F Burgin
Subject: Re: Fwd: Re: TJ_OMAO_PI_Western_Sentry2_06112010_v1.docx
Attachments: DD-1149 Key West1.pdf; LOGREQ KW 5_1_10b.rtf; truman annex overhead.pdf; 1305F801200008 0- JG1.pdf; KW fuel_CD435 scan.pdf

Absolutly!

Tim Denny runs the Navy's Truman Annex which is right next to FKNMS. We like it better than the USCG base.
tdenny@seawardservices.com
cell: 305-360-1222

For mail and everything under the sun (Karla Mendez) and vehicles and any other small boat, maintenancy kind of support (Wayne Nowocien) at the FL. Keys Nat'l Marine Sanctuary
305-292-0311. These guys are great and make sure you get them some nice shirts or hats and they will bend over backwards for you. Treat them well. Also go check out there green initiative stuff. Impressive.

I attached our DD1149, LOGREQ and picture. It ended up being a lot less \$ though.

That should get you pretty far. I put a lot of this on the wiki. might be more info...I forget.

Enjoy! Its hard not to in Key West.

Mark

James.C.Rowe@noaa.gov wrote:

> Mark,
> You were the most recent visitor to Key West. Could you share any current P.O.C. and relevant info with the TJ to smooth their port plans. Please "cc" me on the response so I can update my info.
> Shep - let me know if we can help out with anything.
> Jim
>
> -----
>
> Subject:
> Fwd: Re: TJ_OMAO_PI_Western_Sentry2_06112010_v1.docx
> From:
> CO.MOC.Atlantic@noaa.gov
> Date:
> Tue, 15 Jun 2010 23:29:38 -0400
> To:
> James C Rowe <James.C.Rowe@noaa.gov>
>
> To:
> James C Rowe <James.C.Rowe@noaa.gov>
> CC:

> MOA CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
>
>
> Jim, note that TJ will be pulling into Key West on July 2nd. I/m betting that they will
be full up due to the Key Incident Command standup. Check with the ship to see if they need
assistance with port arrangements.
>
> CO
>
> -----
>
>
> Return-path: <Jeffrey.Ferguson@noaa.gov>
> Received: from mmp1.nems.noaa.gov ([140.90.121.156])
> by vmail7.nems.noaa.gov (Sun Java System Messaging Server 6.2-7.05 (built Sep
> 5 2006)) with ESMTTP id <0L4100IIQYH9P020@vmail7.nems.noaa.gov> for
> CO.MOC.Atlantic@noaa.gov; Tue, 15 Jun 2010 06:58:21 -0400 (EDT)
> Received: from [10.60.6.101] by mmp1.nems.noaa.gov
> (Sun Java System Messaging Server 6.2-6.01 (built Apr 3 2006))
> with ESMTTPSA id <0L4100KX9YH9TH70@mmp1.nems.noaa.gov> for
> CO.MOC.Atlantic@noaa.gov (ORCPT CO.MOC.Atlantic@noaa.gov); Tue,
> 15 Jun 2010 06:58:21 -0400 (EDT)
> Date: Tue, 15 Jun 2010 06:58:21 -0400
> From: Jeffrey Ferguson <Jeffrey.Ferguson@noaa.gov>
> Subject: Re: TJ_OMAO_PI_Western_Sentry2_06112010_v1.docx
> In-reply-to: <4C16958B.9010700@noaa.gov>
> To: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
> Cc: James M Crocker <James.M.Crocker@noaa.gov>,
> "Kyle.Ward" <Kyle.Ward@noaa.gov>, CO.MOC.Atlantic@noaa.gov,
> Gerd Glang <Gerd.Glang@noaa.gov>
> Message-id: <4C175CCD.4060405@noaa.gov>
> MIME-version: 1.0
> Content-type: multipart/mixed; boundary=-----090300050408040508080501
> References: <4C16958B.9010700@noaa.gov>
> User-Agent: Thunderbird 2.0.0.24 (Windows/20100228)
> Original-recipient: rfc822;CO.MOC.Atlantic@noaa.gov
>
> This is a multi-part message in MIME format.
> -----090300050408040508080501
> Content-Type: text/plain; charset=ISO-8859-1; format=flowed
> Content-Transfer-Encoding: 7bit
>
> Final version and first round signature attached.
>
> This morning, Jim (or Kyle for Jim) will sign and then we'll distribute
> through the normal channels.
>
> Jeff
>
> CO Thomas Jefferson wrote:
>
>> Edits to Project Instructions attached. If we had all the time in the
>> world, I would make a few things clearer, but this is pretty close to
>> my understanding of our requirements and plans.
>>
>> Shep
>>

Debora.R.Barr

From: Eric M. Johnson [Eric.Johnson@noaa.gov]
Sent: Wednesday, June 16, 2010 10:40 AM
To: 'CO Thomas Jefferson'
Subject: RE: more info on looking for submerged oil

Please note that there is more than one Eric Johnson in NOAA, with similar email addresses. Your email may have been intended for eric.t.johnson@noaa.gov . Please make the necessary corrections prior to resending.

Sincerely,

Eric Johnson

NEXRAD RF
816-823-1057 ext. 241
National Weather Service
National Reconditioning Center
Kansas City, MO

From: CO Thomas Jefferson [mailto:CO.Thomas.Jefferson@noaa.gov]
Sent: Tuesday, June 15, 2010 4:39 PM
To: Tracy Collier
Cc: jcragan@asascience.com; Eric Johnson; Juli.Trtnanj@noaa.gov Trtnanj
Subject: Re: more info on looking for submerged oil

Hi Tracy,

The fluorometer we are using on the MVP is specifically tuned to the wavelengths appropriate for crude oil. The manuals are attached for reference.

We have continued to see the fluorometer return to the same basic level between measurements in oiled areas, from which we conclude that the contamination is washing off adequately as the sensor moves through the water. One of the bigger problems has been slow response time on the sensor with respect to its speed through the water. As a result, we are using the upcast preferentially because of the slower vertical rate.

Thanks for the info,

Best Regards,

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Tracy Collier wrote:
Folks,

I just received some advice from Dr. Joel Baker, formerly at CBL/UMCES, but now at University of Washington, and a very good environmental chemist.

He says that if you can tune your fluorometer to something in the 230-400/320-370 excitation/emission range, that should help distinguish between PAHs and natural chromophores by wavelength. I don't know if you have that capability, and if you do you may well have already thought of that.

He also cautions about having clean equipment so that you don't get crossover contamination, again something I'm sure you're aware of, but depending on what concentrations of subsurface oil you might run into, it can be a very hard problem to get around in the field.

Good luck, be safe!

Tracy

On Jun 14, 2010, at 12:02 PM, CO Thomas Jefferson wrote:

Tracy,

We are following protocols and chain of custody protocols from NRDA, as provided by the command center in Houma.

Eric Johnson has volunteered to take over point on finding a coastal oceanographer/chemist. He is cced on this email. Jenna Cragan helped us get set up with sampling protocols and could answer any specific questions.

Shep

----- Original Message -----

Subject:Re: [Fwd: Got the CTD, still looking for a chemist.]

Date:Mon, 14 Jun 2010 11:37:33 -0400

From:Tracy Collier <Tracy.K.Collier@noaa.gov>

To:CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>

CC:Juli Trtanj <Juli.Trtanj@noaa.gov>, "Mary.Erickson@noaa.gov" <Mary.Erickson@noaa.gov>, "Shep.Smith@noaa.gov" <Shep.Smith@noaa.gov>

References:<888D35080D24854AB67E0FE7147601F304BDF2C8A2@Vmail51.noaa.nems>
<4C14D7F0.5060200@noaa.gov>

CDR--I've been checking with some folks, no silver bullet has come up yet that could be implemented by tomorrow. I have one more person to query on the west coast, and if I can reach him today I'll let you know if any other options might work.

I'm getting a few questions about the protocol you will be using for the sample collection and preparation/storage for subsequent detailed analysis, do you know who prepared that for your cruise ops plan?

Tracy

On Jun 13, 2010, at 9:06 AM, CO Thomas Jefferson wrote:

Hi Julie,

We don't have any on-board testing capability. I hope (but don't know) that the laboratory work would turn up the presence of dispersants in the samples we send in.

We are planning to get underway on Tuesday AM.

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Juli Trtanj wrote:

Thanks for this information. When are you deploying? And are you planning to test for dispersants in the water samples?

--Juli

From: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>

To: 'Tracy.K.Collier@noaa.gov' <Tracy.K.Collier@noaa.gov>

Cc: Mary Erickson <Mary.Erickson@noaa.gov>; 'juli.trtanj@noaa.gov' <Juli.Trtanj@noaa.gov>; 'shep.smith@noaa.gov' <Shep.Smith@noaa.gov>

Sent: Sat Jun 12 14:15:36 2010

Subject: Re: [Fwd: Got the CTD, still looking for a chemist.]

Hi Tracy,

We have teflon-lined Niskin bottles, appropriate bottles and water sampling procedures, as well as chain of custody procedures.

The hole I see is in our onboard expertise in interpretation of fluorescence, dissolved oxygen, salinity, temperature, and turbidity within the coastal zone. We need onboard expertise to be able to do preliminary analyses to guide our hour-by-hour adaptive mission planning. Essentially, we are looking for markers for submerged oil in the coastal zone and want to reduce the numbers of other coastal phenomena that might confound our interpretations. If there is such a thing as a "field test" for PAH, that might be really helpful in sorting out false positives right away as well. The "official" results will be from the lab.

Best regards,

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Mary Erickson wrote:

Yes, I believe they have the bottles, but are looking for a chemist. If you have specific questions, feel free to contact CDR Shep Smith, CO of the Thomas Jefferson.

Mary

From: Tracy Collier <Tracy.K.Collier@noaa.gov>
To: Mary Erickson <Mary.Erickson@noaa.gov>
Cc: 'Juli.Trtnj@noaa.gov' <Juli.Trtnj@noaa.gov>
Sent: Sat Jun 12 11:52:58 2010
Subject: Re: [Fwd: Got the CTD, still looking for a chemist.]

I assume you're looking for analyses for oil-derived compounds (PAHs?) in water samples, and is the interest in doing on-board analyses in order to get near real-time information during the cruise?

A major consideration if that's the intent is to have the right type of niskin bottle for the rosette, or at least the right lining (Teflon is often used for chemical contaminants).

If I have a little more background I may be able to give more useful advice!

Tracy

On Jun 12, 2010, at 11:47 AM, Mary Erickson wrote:

Thanks, Juli!

From: Juli Trtnj <juli.trtnj@noaa.gov>
To: 'Tracy.K.Collier@noaa.gov' <Tracy.K.Collier@noaa.gov>
Cc: 'Mary.Erickson@noaa.gov' <Mary.Erickson@noaa.gov>
Sent: Sat Jun 12 11:32:29 2010
Subject: Fw: [Fwd: Got the CTD, still looking for a chemist.]

Hey Tracy,

Any thoughts here? We have maria delorenzo at CCEHBR and others there too. Also Gunnar, but I think he is tapped out. NWFSC has folks but they are analyzing, right?

So what abt one of the CCEHBR folks, or other suggestions?

From: Mary Erickson <Mary.Erickson@noaa.gov>
To: 'Juli.Trtnj@noaa.gov' <juli.trtnj@noaa.gov>
Sent: Fri Jun 11 16:34:12 2010
Subject: Fw: [Fwd: Got the CTD, still looking for a chemist.]

Juli,

Any ideas for this?

Mary

From: Shep Smith <shep.smith@noaa.gov>
To: NOAA All LCDPers <noaa.all.lcdpers@noaa.gov>
Sent: Fri Jun 11 15:54:58 2010
Subject: [Fwd: Got the CTD, still looking for a chemist.]

LCDP,

What a crowd! Thanks for all the good suggestions.

We have a CTD/rosette. We have a couple of leads on a coastal chemist, but no deal yet. A NOAA person would be ideal. I would think NCCOS and OAR would have a few...

Best,

Shep

--

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

--

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Leg 3 Objectives



- Close out open Coast Survey projects in Western Gulf
- Establish baseline water chemistry in Western Gulf 50m-1200m, 50 mile transects
- Develop concept of operations for use of the MVP for widespread submerged oil detection and mapping in coastal zone
- Collect additional acoustic and CTD data around the dynamic disaggregated clouds of dispersed oil as requested by the acoustic steering group.



Science Party



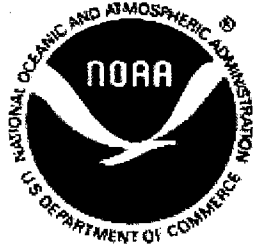
-
- CDR Shepard Smith, CO, Chief Scientist
 - LT Sam Greenaway-data integration, visualization, adaptive mission planning
 - Dr. Alex DeRobertis, bioacoustics
 - LT Mark Blankenship, Operations Officer, TJ
 - CST Dan Wright, Chief Survey Tech, TJ
 - TBD/ as necessary, CTD ops
 - ENS Jasmine Cousins, Lead for water sampling
 - TBD, EPA, Chain of Custody
 - LT Liz Crapo, Communications



Why this combination?



- Efficient
 - Ship can steam at 9 kts while collecting both sonar and in situ measurements-can cover up to 200 LNM per day
- Rigorous
 - Water samples ground truth the Turner Crude Oil sensor, which ground truths the sonar.
- High resolution
 - The sonar is continuous along track, which may permit detection of the edges of submerged masses



Leg 3 Capabilities



- Multiple echosounders (12, 38, 200 kHz) with water column capabilities operate continuously along track
- An MVP with a multi-sensor freefall fish takes a cast 4-6 times per hour. The sensor package includes a Turner Crude Oil Sensor, dissolved oxygen, CTD, and sound speed sensor.
- Static cast taken with CTD, water samples are taken at depth to ground truth any evidence of oil in the other two sensors.
- HAZMAT-equipped and trained crew
- 24 hour operations on all sensors



Timeline-TJ DWH Leg 3



- (June 15-18)-MVP and CTD Baselines working from Galveston east toward the spill site-Continuation from unfinished work from Leg 2
- (June 19-23)-Inshore MVP transects from 20m curve to 100m curve-Port Fourchon to Mobile
- (June 24-27)-Targeted acoustic and CTD work in deep water near spill site, at direction of Acoustics Group
- (June 28-July 2)-MVP and CTD Baselines working from Mobile to Tampa



Coastal Zone CONOPS



- 1300 LNM of MVP and acoustic transects from Port Fourchon to Tampa Bay
 - Casts taken 6-10 per hr, approx 1 NM resolution
- If “Hot Spots” are discovered in the fluorescence or DO,
 - the area is further developed with MVP
 - water samples taken
 - shoreside component notified immediately.



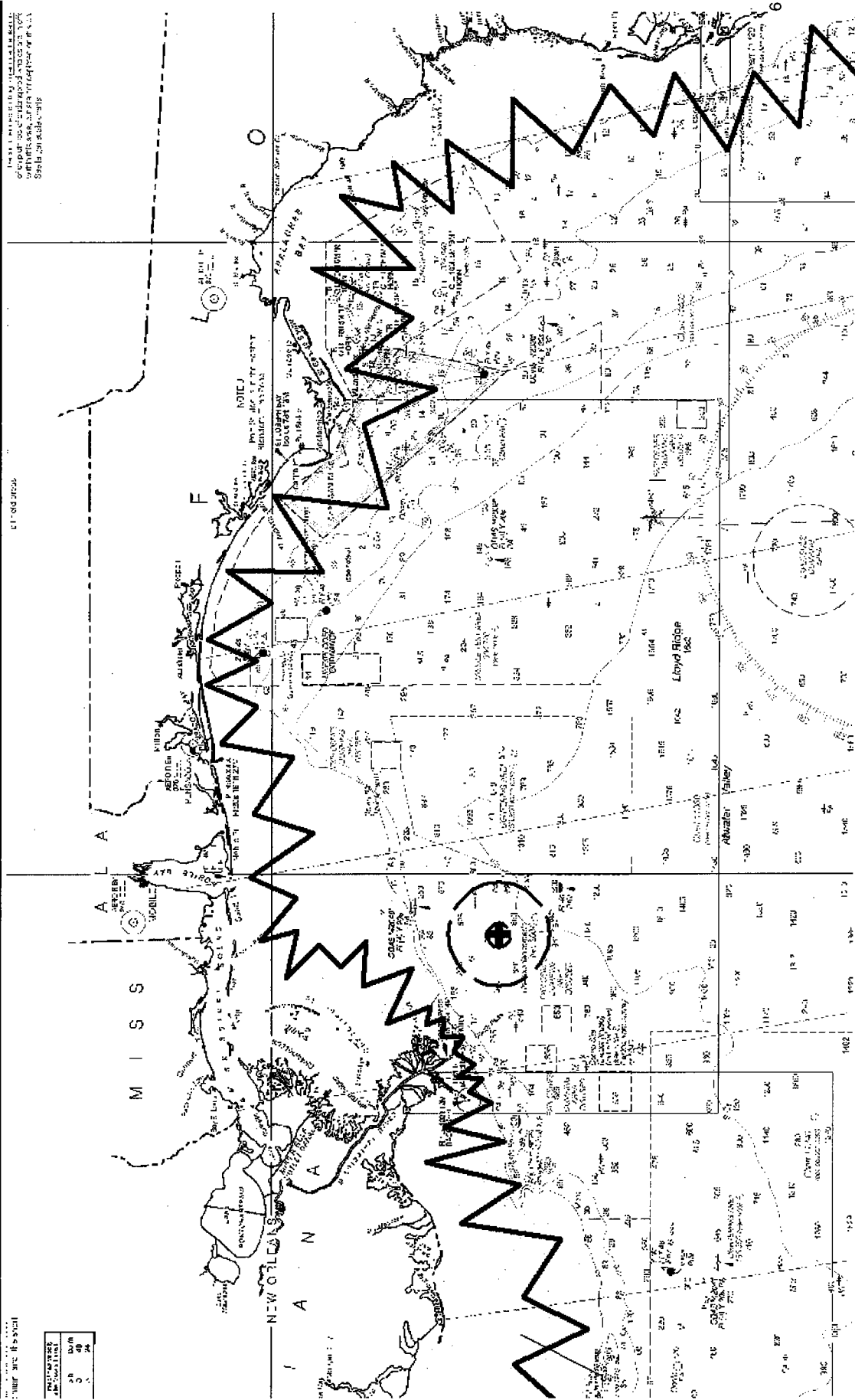
MVP Proposed Area of Operations

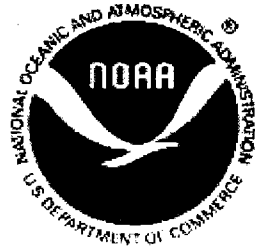
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DATE	TIME	LOCATION	DEPTH
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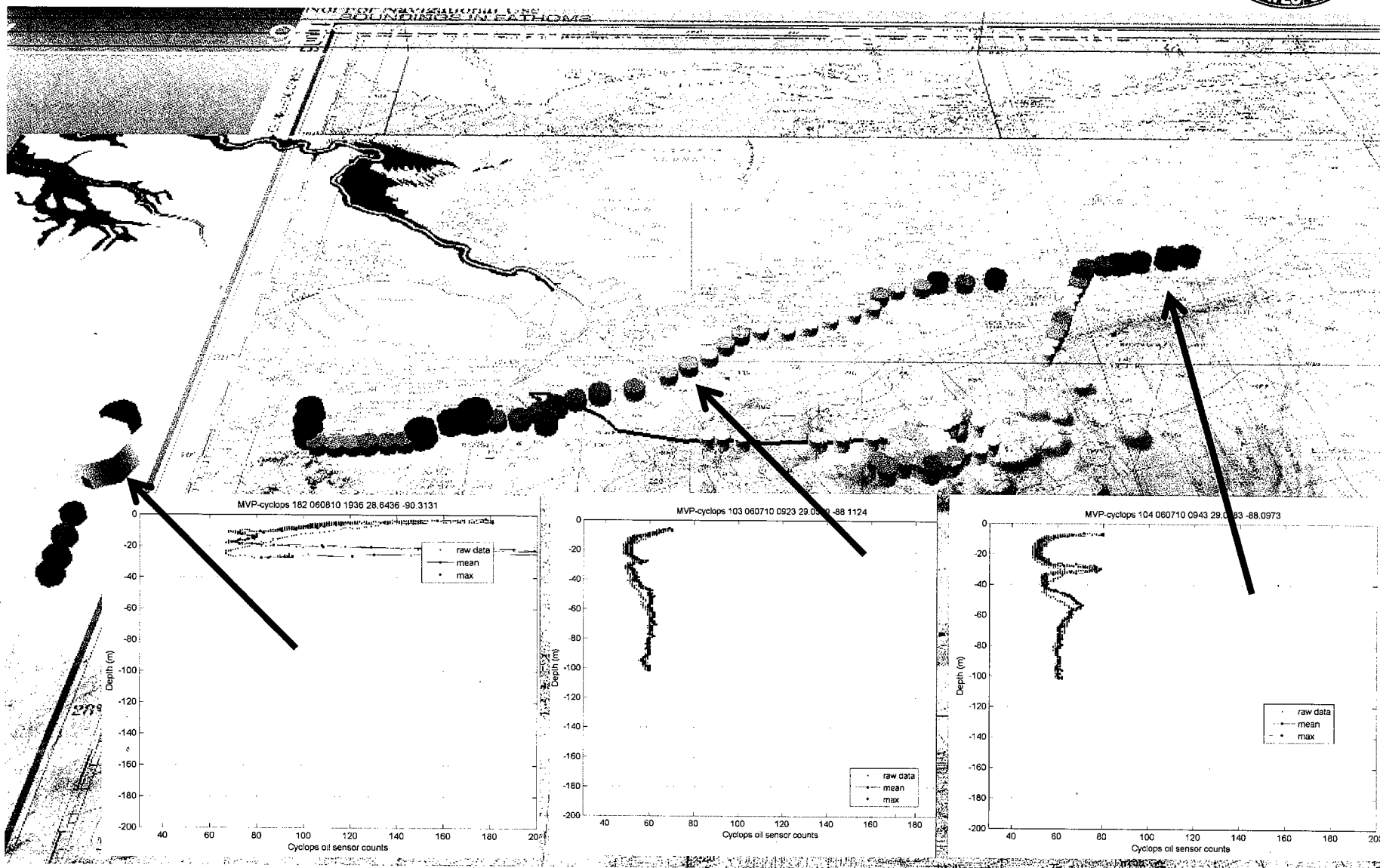
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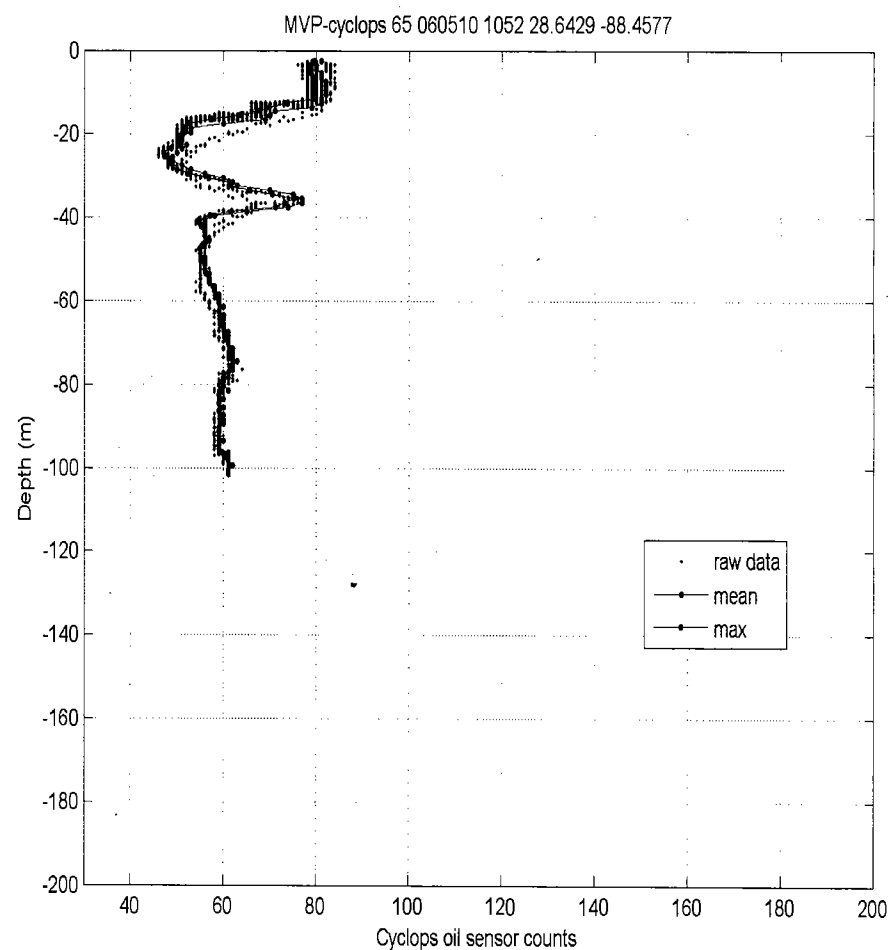
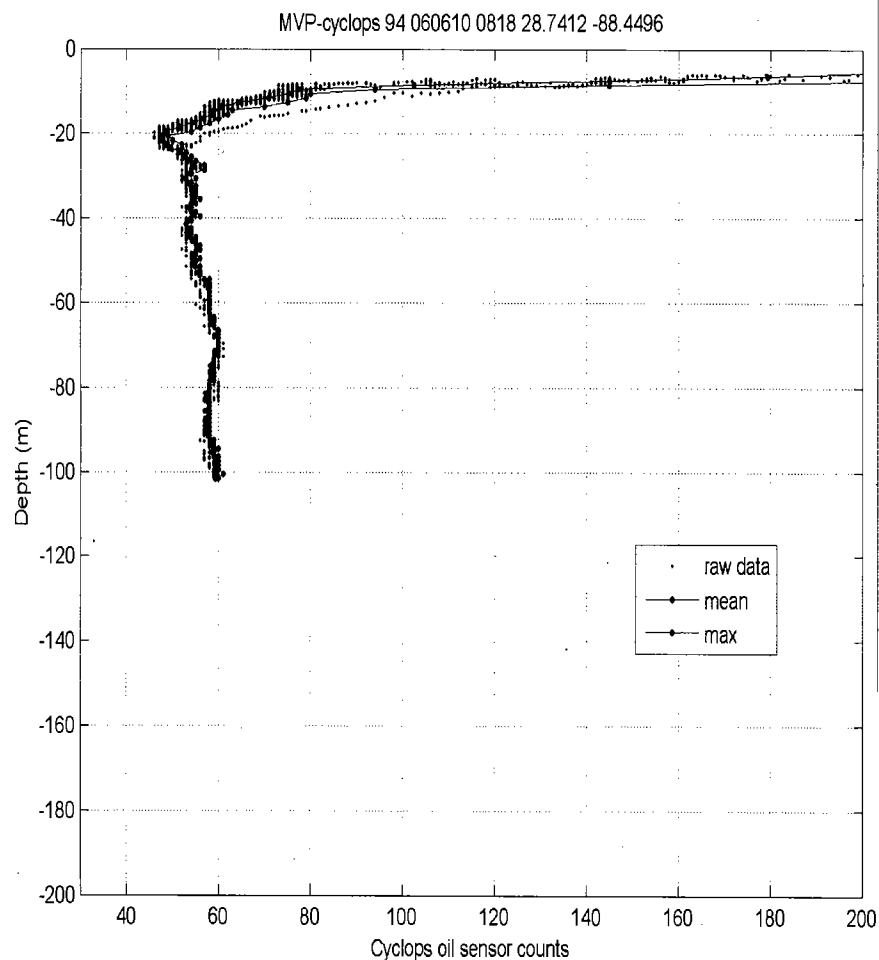
MVP Exploratory Transect

(colored by max fluorescence below 20m)





MVP Examples



Baseline in Area with Surface Oil

Anomalous Readings off Mobile, AL



Status After Leg 2



- Hypothesis developed for acoustic signature of anomalous water mass near site
- MVP work shown to be effective way to take casts over large areas quickly.
- Baseline CTD transects in Western Gulf half complete
- Coast Survey projects in Galveston and Texas Fairways need two days of work to "square off"



Outline



- Status after Leg 2
- Proposed Timeline and Activity
- TJ Capabilities
- Science Party
- Project Objectives
- Gap Analysis



NOAA Ship Thomas Jefferson Deepwater Horizon Response Leg 3 Proposal

June 8, 2010



Questions/Concerns



- Still have a gap in knowledge of coastal processes and historic data.
- We want to ensure our efforts are well coordinated with others, especially at the wellhead.
- We need to have a contingency plan for reporting any results indicating anomalous water masses in the coastal zone to researchers and perhaps responders.



Additional Work Planned



- Air Sampling for Dr. James Meagher, NOAA Boulder
- OSHA air quality expert embark Pascagoula 6/21
- Both on a not-to-interfere basis



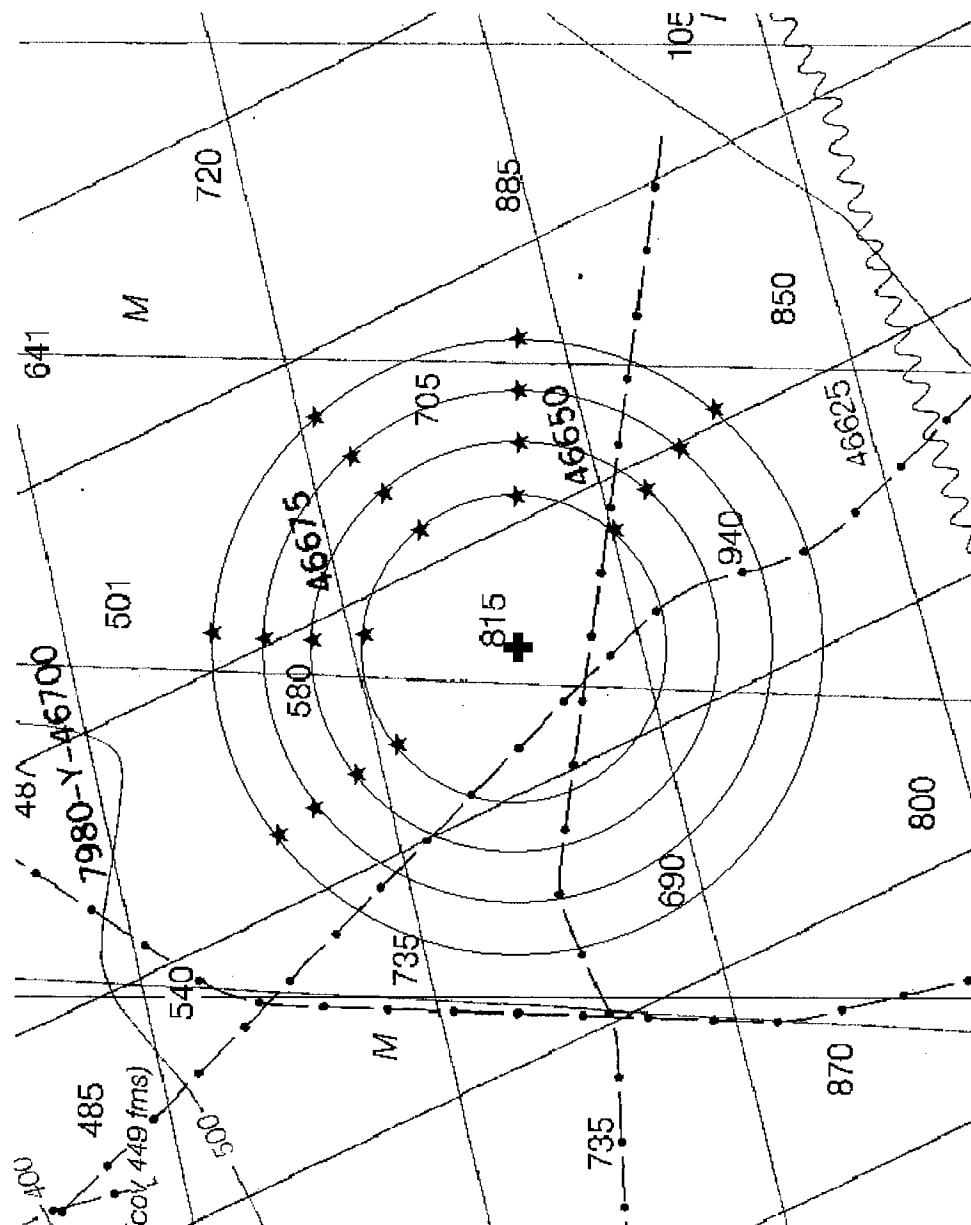
DWH Sampling



- Proposed to fill in gaps in sampling to the North and East of site at 3-6 NM ranges
 - At 8-10 casts per day, estimate at 2 days
- Questions
 - Is this still a priority? Are there newer or other planned samples covering this area?
- Leaves 2 days to continue acoustic work on deep anomalies, if this is still important
 - Need specific information on recent hot spots
- Alternative is to increase scope of coastal work



Sample Sites around DWH





Coastal Zone CONOPS



- 1300 LNM of MVP and acoustic transects from Port Fourchon to Tampa Bay
 - Casts taken 6-10 per hr, approx 1 NM resolution
- If “Hot Spots” are discovered in the fluorescence or DO,
 - the area is further developed with MVP
 - water samples taken
 - shoreside component notified immediately.

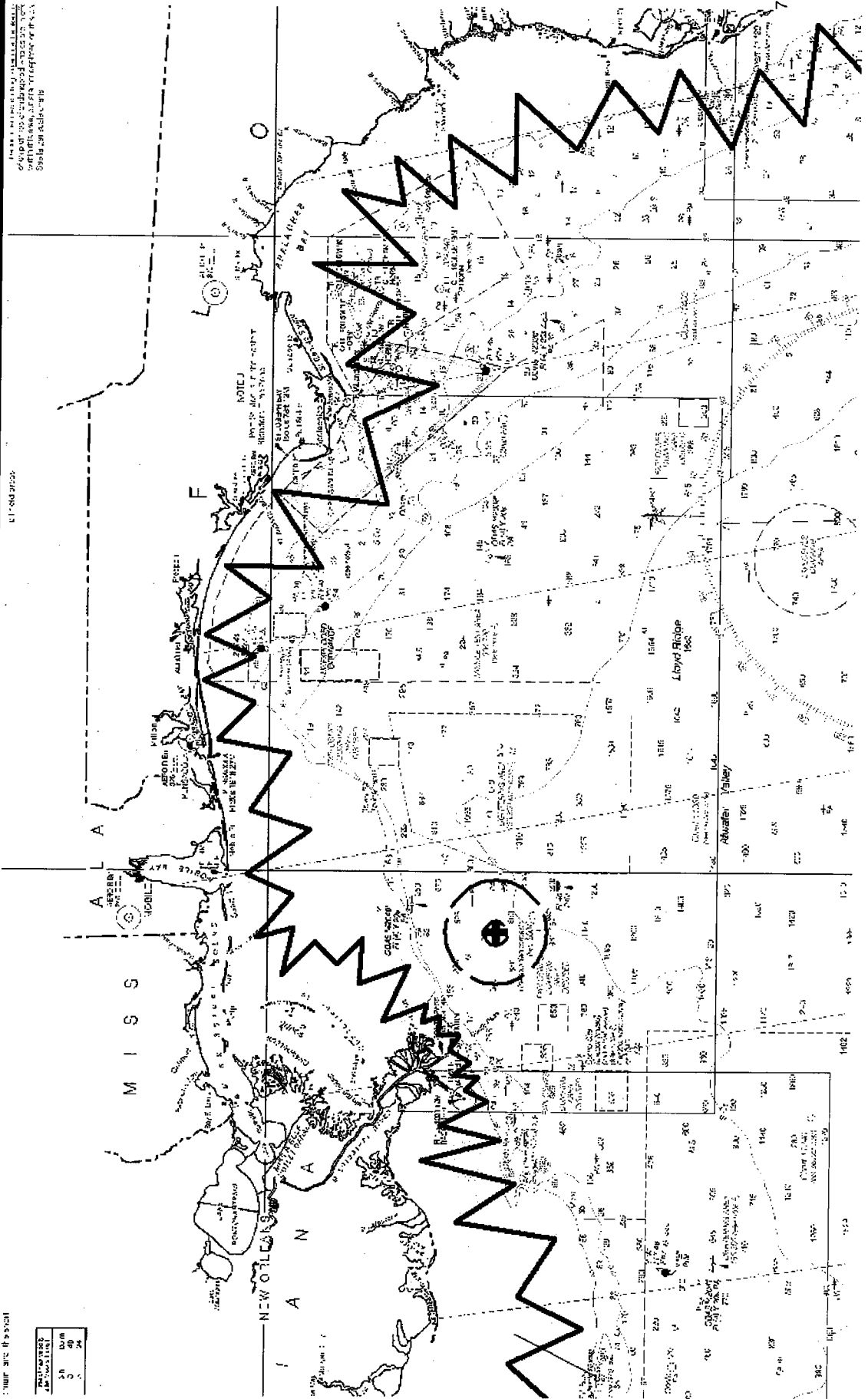


MVP Proposed Area of Operations



1:100,000 Scale

Scale	1:100,000
1 inch	2.5 miles
1 centimeter	0.6 miles



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 and the Copyright Act of 1976



Timeline-TJ DWH Leg 3



- (June 15-18)-MVP and CTD Baselines working from Galveston east toward the spill site-Continuation from unfinished work from Leg 2
- (June 19-21)-Inshore MVP transects from 20m curve to 50 or 100m curve-Port Fourchon to Pascagoula
- (June 21-25)-Targeted acoustic and CTD work in deep water near spill site, at direction of Acoustics Group
- (June 25-July 2)-MVP and CTD Baselines working from Mobile to Tampa
- Alongside Pascagoula for water and sample transfer 6/21 and 6/27, transfers at sea 6/18, 6/24, 6/30



Leg 3 Objectives



- Close out open Coast Survey projects in Western Gulf
- Establish baseline water chemistry in Western Gulf 50m-1200m, 50 mile transects
- Develop concept of operations for use of the MVP for widespread submerged oil detection and mapping in coastal zone
- Collect additional acoustic and CTD data around the dynamic disaggregated clouds of dispersed oil as requested by the acoustic steering group.



Science Party



-
- CDR Shepard Smith, CO, Chief Scientist
 - LT Sam Greenaway-data integration, visualization, adaptive mission planning
 - Dr. Dennis Apeti, NCCOS, coastal chemistry
 - LT Mark Blankenship, Operations Officer, TJ
 - CST Dan Wright, Chief Survey Tech, TJ
 - ST Samantha Allen, Nancy Foster, CTD ops
 - ENS Jasmine Cousins, Lead for water sampling
 - Jason Sadler, NRDA Chain of Custody
 - LT Liz Crapo, Communications



Activity to Date



- Baseline transect working west to east, CTDs and MVP Fluorometer
- Refined sampling protocols
- Extended CTD capability to 24 hrs/day sustainably.



Outline



-
- Activity to Date
 - Science Party
 - Project Objectives
 - Plans 6/19-27



NOAA Ship Thomas Jefferson Deepwater Horizon Response Leg 3 Progress

June 18, 2010

Crude Oil

What is crude oil?

Crude Oil or Petroleum, is simply unprocessed oil found deep beneath the earth's surface. It can be range in color from clear to black and can be found as a liquid or solid. Overall properties of crude oils are dependent upon its chemical composition and structure. Crude oil is pumped and stored in barrels for future refinement. The refinement process may involve filtering, addition of additives, and specialized separation techniques to create specific crude oils and crude oil products. Generally all crude oils are made up of hydrocarbon compounds. The main hydrocarbons found in crude oil are Aliphatics, Alicyclics, and Polycyclic Aromatic Hydrocarbons (PAH)

Aliphatics and Alicyclics Properties

- Quickly broken down by natural processes
- Residence time in environment is less than a day
- Straight chain or ring carbon structures with weak bonds
- Low fluorescence characteristic

Polycyclic Aromatic Hydrocarbons (PAH) Properties

- Most abundant of the main hydrocarbons found in crude oils
- Many are toxic
- Can be carcinogenic to plants and animals
- Difficult to separate from water using regular filtering techniques making them a potential human health hazard
- 6-sided carbon rings which contain strong bonds
- Prolonged breakdown by natural processes
- Highly fluorescent aromatic characteristics allow researchers to easily detect PAH's using fluorescence techniques

The aromatic carbon compounds (**PAH's**) found in crude oils can range from simple structures like Naphthalene to very complex ones like Asphaltene (Figures 1A and 1B). The **Aromaticity** of the compound plays a key role in determining its fluorescence intensity. There are other factors that also affect the fluorescence properties of crude oils.

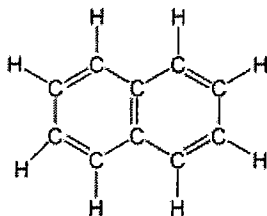


Figure 1A: Naphthalene

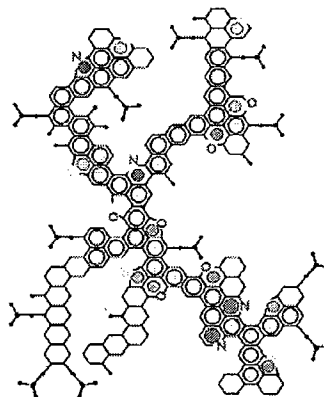


Figure 1B: Asphaltene

Fluorescence of oil

Oils are typically excited using ultraviolet wavelengths (300-400 nm) and fluoresce in the visible wavelength range from 400-600 nm. The compound's **Carbon Structure** will determine its fluorescent properties. The addition of **Additives** will also affect the fluorescence properties of oils. Figure 2 is a graph taken from Karpicz et. al. showing different types of refined crude oils and crude oil products, each with its corresponding emission wavelength. The difference in crude oil fluorescence is primarily due to the refinement process.

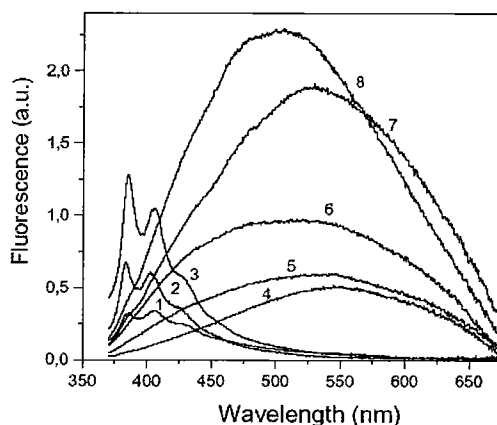


Figure 2 Legend:

- 1 – Motor oil
- 2 – Shell Diala oil
- 3 – Oil SAE 30
- 4 – Bunker Fuel oil
- 5 – Arabian Medium crude oil
- 6 – Basra crude oil
- 7 – German crude oil
- 8 – Nihian crude oil

Physical properties such as **Weight** of oil or **API gravity**, a term used to express the density of petroleum liquids, may also affect the fluorescence of crude oils. Figure 3 from Ryder, Iwanski & Montanari (2004) compares the emission wavelength of two weight classes of crude oils. Type A oil is light oil and type B is medium heavy oil. Heavier oils with lower API gravity tend to shift towards the red end of the light spectrum and have broader peaks.

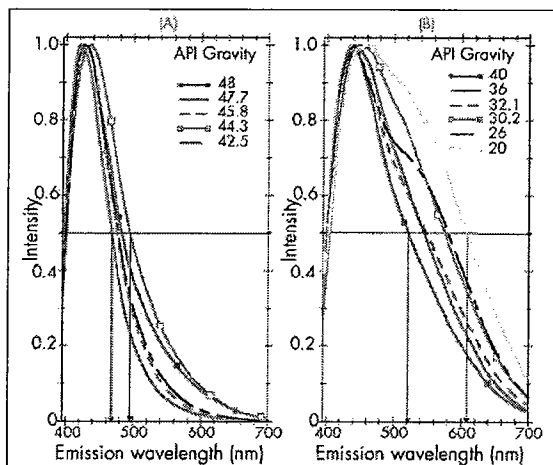


Figure 3: (A) is light oil, (B) is medium heavy oil. Excitation light being used is 380nm. Both oils are obtained from the North Sea.

Turner Designs **10-AU, Trilogy, and Cyclops-7 fluorometers** are able to detect the fluorescence of crude oils or crude oil products. Natural water samples are excited at a specific ultraviolet wavelength of light. Specialized band pass emission filters allow the instruments to read a broad range of dissolved oil compounds or emulsions in water.

Figure 4 shows preliminary data gathered from the Trilogy fluorometer. Crude Oil dilutions were used to check if linearity was comparable for dissolved oil and oil emulsions in water to 500ppm.

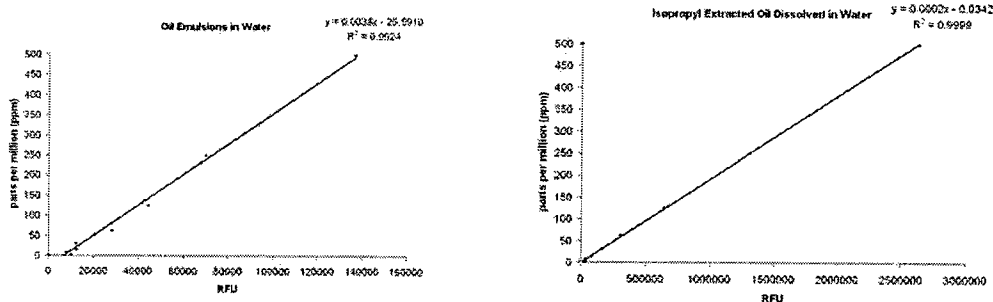


Figure 4: Comparing linearity of oil in water and dissolved oil in water using Trilogy fluorometer. Crude oil dilutions of concentrations from 0-500ppm were used. Good linearity was achieved for both data sets ($r^2=0.99$).

Resolution of the lower end can sometimes be difficult because of the inherent noise level of some systems. Figure 5 looks at how the Cyclops-7 resolves lower end concentrations of dissolved oil in water and oil emulsions in water. As a result of the low signal variation our detection limit is <0.1ppm. Crude oil concentrations reported in environmental systems are rarely found at the 0.1ppm level (Wilhelm & Spitz 2003).

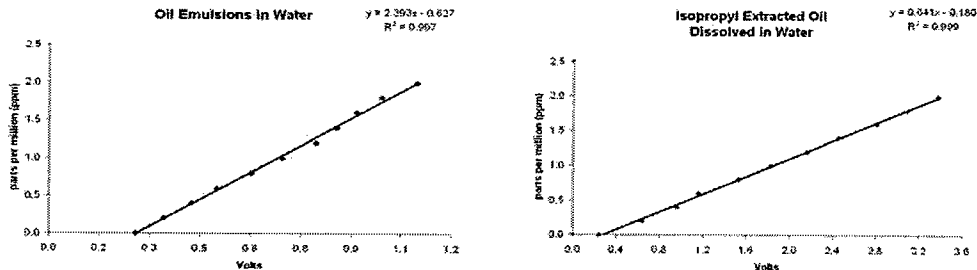


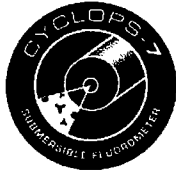
Figure 5: Lower end resolution comparing oil in water and dissolved oil in water. Crude oil dilutions were used to establish linear responses for low concentrations ($r^2 = 0.99$).

Reference:

A.G. Ryder, P. Iwanski, and L. Montanari "Fluorescence emission from petroleum; a valuable information source for petroleum analysis" Tpoint (in-house journal for EniTecnologie), 2-June, 9-14, (2004)

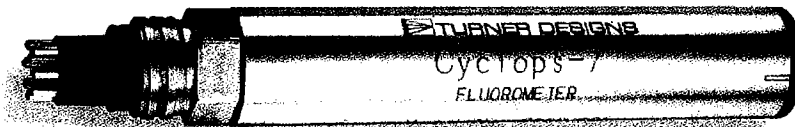
R.Karpicz, A.Dementjev, V.Gulbinas, Z.Kuprionis, S.Pakalnis, R.Westphal, R.Reuter "Laser fluorosensor for oil spot detection" Lithuanian Journal of Physics 45 (2005) 213-218

S Mark WILHELM, Peter SPITZ "Impact of mercury on crude oil quality" World refining 13:11, 32-36, Chemical Week Publishing, 2003



**CYCLOPS-7
Submersible Sensors**

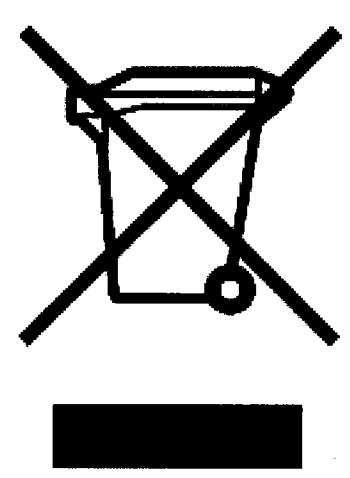
User's Manual



Version 1.7
July 20, 2009
P/N 998-2100

TURNER DESIGNS
845 W. Maude Ave.
Sunnyvale, CA 94085
Phone: (408) 749-0994
FAX: (408) 749-0998

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Equipment Specified as Electrical and Electronic Waste
Smaltimento di apparecchiature elettriche ed elettroniche da rottamare

1.3 Functional Test

To perform a functional check on the CYCLOPS-7, connect the interface colored wires to the power supply and multi-meter as shown in Figure 1 below.

Additional Equipment required for functional tests:

DC Power Supply, 3 - 15 VDC, >100 mA

Multi-meter to read 0 – 5 VDC



Note: Supply voltages greater than 15 VDC will result in damage to the sensor.

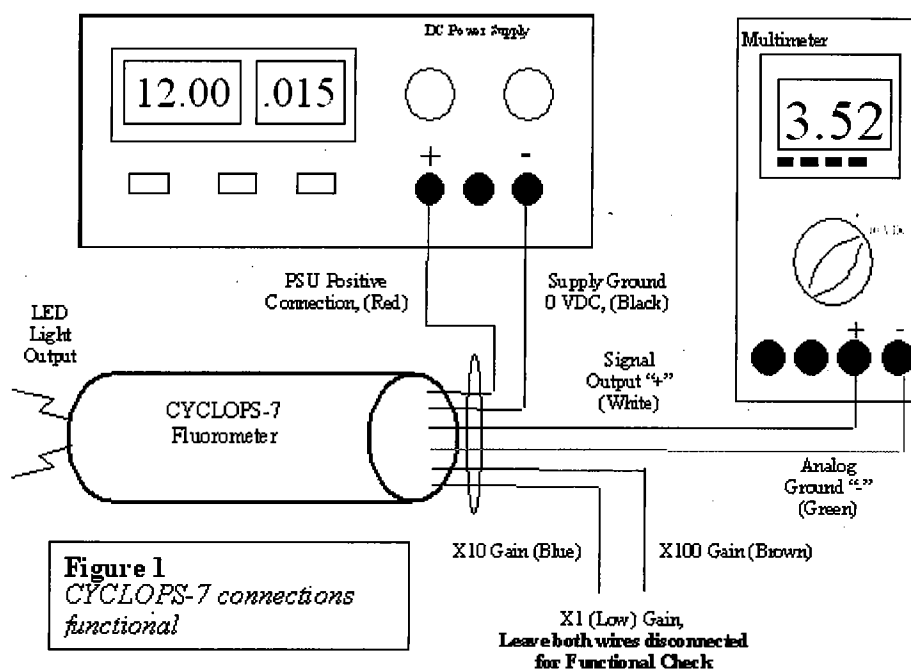


Figure 1
CYCLOPS-7 connections functional

With the CYCLOPS-7 connected as shown in Figure 1 answer questions 1-3 by making the following functional tests:

1. Is the LED on?
Hold a piece of white paper about ½ an inch in-front of the optical head to ensure the LED is on (**Note: cannot perform this test for Turbidity sensors because they use IR which is not visible**)
2. Is there voltage output?
The multi-meter should be reading some voltage >0 VDC
3. Does the voltage output change?
Move the light source close to your hand or a surface and ensure the voltage output increases

If you are uncertain of which gain setting to use you can take readings of a representative sample of water in the laboratory and determine which gain is the most appropriate. Customers wanting to dynamically change the gain ranges to achieve the optimum operating range should refer to "Method 2 – Dynamic Gain Control" in Appendix E on how to interface with a Data Collection System with programmable outputs.

2.1.3 Auto Gaining

Certain data loggers or multi parameter systems will have an auto gaining feature which will automatically adjust the sensitivity according to the voltage output from the CYCLOPS-7 sensor. This feature maximizes the performance of CYCLOPS-7 sensors allowing users to detect a broad range of concentrations, obtain the best resolution, and read minimum detection limits without having to rewire or manually change the sensor's sensitivity. Turner Designs currently manufactures the DataBank handheld data logger (see *Appendix F*), which is a data logger that can be used with CYCLOPS-7 sensors and has the auto gain feature and other functions that help maximize the performance of CYCLOPS-7 sensors.

2.2 Calibration Using Standard(s) with known Concentrations

Calibrating the Cyclops-7 is a simple process, which requires the use of calibration standards. The Cyclops-7 can be calibrated using a single calibration standard, which correlates the standard's concentration to the voltage measured for that specific standard:

- 1) Connect the Cyclops-7 to a power source and set the Cyclops-7 to a gain setting (see *section 2.1.1 for explanation on how to determine gain*)
- 1) Measure the voltage from a blank sample for the configured gain setting. (**Note: a good blank to use for this application is ultra pure or de-ionized water**)
- 1) Use a standard of known concentration and create a correlation between the standard's concentration and its voltage output
- 1) Once a correlation has been made, use the following equation to calculate concentration values for sample measurements for the calibrated gain:

$$C_{\text{Sample}} = [(C_{\text{Std}}) / (\text{Volts}_{\text{Std}} - \text{Volts}_{\text{Blank}})] * \text{Volts}_{\text{Sample}}$$

C_{Std} = Concentration value of standard used for calibration

C_{sample} = Concentration of sample

$\text{Volts}_{\text{Std}}$ = voltage reading from standard concentration

$\text{Volts}_{\text{Sample}}$ = voltage reading from sample(s)

$\text{Volts}_{\text{Blank}}$ = voltage reading from blank

2.3 Recommended Lab Practices for Cyclops-7 Measurements

The following steps will improve the accuracy and repeatability of your measurements, especially at low concentration levels:

1. Use a Glass Beaker for your water samples. (**Note: Avoid plastic beakers – plastic fluoresces and will interfere with the sample fluorescence**)
2. Place the glass beaker on a Non-Reflective Surface, preferably black.

2. 4.1 Installing the Solid Secondary Standard

1. Before installing the SSS you must ensure that the optical surface of the CYCLOPS-7 is completely clean and dry. The SSS is indexed and it must be installed so that the indexing is precisely aligned for proper use (see Figure 3).

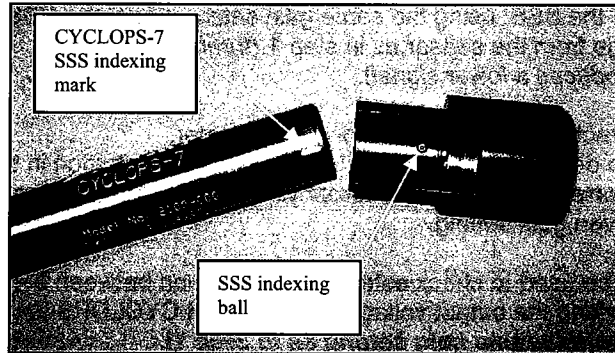


Figure 3.
*Align the index mark and
indexing ball when installing
CYCLOPS-7 in the SSS.*

2. To install, place the SSS on to the optical end of the CYCLOPS-7.
3. With the SSS fully pressed on, rotate in either direction until you feel the SSS indexing ball click into the indexing mark on the CYCLOPS-7.
4. Use a flat-head screwdriver to unscrew the locking nut as far as it will go.

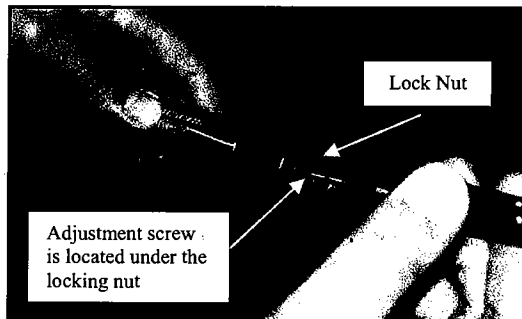


Figure 4
*Insert the supplied green
screwdriver through the
calibration hole in the locking
nut to reach the adjustment
screw.*

5. To change the signal level using the green screwdriver provided, insert the blade through the hole in the locking nut. Rotate it until it engages with the adjustment screw that is beneath the locking nut. Now the screw can be used to adjust the signal level as necessary.
6. Once the desired reading has been obtained, the locking nut should be screwed down so that the adjustment screw is held firmly in place.
7. Finish by noting the output voltage and gain setting used, (X1, X10 or X100) in the "Value" space on the SSS label
8. Note that the response of every solid standard is unique. Hence, a new correlation must be determined for every sensor. For future identification, use the "ID" space on the label as a unique identifier for the SSS.

3.0 Turbidity Cyclops-7

Introduction

The Turbidity Cyclops-7 measures turbidity using an 850nm light source and detection of scattered light at a 90-degree angle, which is similar to many modern day bench top turbidity meters. This unit provides a quick and accurate way to determine *in situ* turbidity, eliminating the collection and storage of samples and minimizing the potential error associated with sample handling and processing.

3.1 Calibration

Calibrating the Turbidity Cyclops-7 is a simple process, which requires the use of calibration standards. Turner Designs recommends purchasing Amco Clear Analytical Turbidity Standards for non-ratio instruments because these standards are non-toxic safe solutions consisting mainly of de-ionized water that comes prepared in a broad range of concentrations and has a shelf life guaranteed for one year. The Turbidity Cyclops-7 can be calibrated using a single calibration standard, which correlates the concentration to the voltage measured for that specific standard:

- 1) Connect the Turbidity Cyclops-7 to a power source and set the Turbidity Cyclops-7 to a gain setting (see "Setting the Gain" section 2.1 for explanation on how to set the gain)
- 2) Measure the voltage from a blank sample for the configured gain setting. **(Note: a good blank to use for this application is ultra pure or de-ionized water)**
- 3) Use a turbidity standard of known concentration (NTU) and create a correlation between the standard (NTU) and its voltage output
- 4) Once a correlation has been made, use the following equation to calculate turbidity values for sample measurements for the calibrated gain:

$$NTU_{Sample} = [(NTU_{Std}) / (Volts_{Std} - Volts_{Blank})] * Volts_{Sample}$$

NTU_{Std} = Concentration value of standard used for calibration

NTU_{Sample} = Concentration of sample

$Volts_{Std}$ = voltage reading from standard concentration

$Volts_{Sample}$ = voltage reading from sample(s)

$Volts_{Blank}$ = voltage reading from blank

4.0 Recommended Measurement Practices

4.1 Linear Range and Quenching

The linear range is the concentration range in which the CYCLOPS-7 output is directly proportional to the concentration of the signal. The linear range begins with the smallest detectable concentration and spans to an upper limit (concentration) that is dependent upon the properties of the material, filters used, and path length.

A non-linear relationship is seen at very high concentrations where the signal does not increase at a constant rate in comparison to the change in concentration (see Figure 5 below). At even higher concentrations, the signal will decrease even though the sample concentrations are continuing to increase. This effect is known as "signal quenching". Linearity can be checked by diluting a sample 1:1 or some other convenient ratio. If the sample is still in the linear range, the reading will decrease in direct proportion to the dilution.

6.0 Warranty

6.1 Terms

Turner Designs warrants the CYCLOPS-7 and accessories to be free from defects in materials and workmanship under normal use and service for a period of 12 months from the date of shipment from Turner Designs with the following restrictions:

- ◆ Turner Designs is not responsible for replacing parts damaged by accident or neglect. Your instrument must be installed according to instructions in the User's Manual. Corrosion is not covered. Damage caused by customer modification of the instrument is not covered.
- ◆ This warranty covers only Turner Designs products and is not extended to equipment used with our products. We are not responsible for accidental or consequential damages, except in those states where this limitation is not allowed. This warranty gives you specific legal rights and you may have other rights which vary from state to state.
- ◆ Damage incurred in shipping is not covered.

6.2 Warranty Service

To obtain service during the warranty period, the owner shall take the following steps:

1. Write, email, or call the Turner Designs Technical Support department and describe as precisely as possible the nature of the problem.

Phone: 1 (877) 316-8049

Email: support@turnerdesigns.com

2. Carry out any adjustments or tests as suggested by the Technical Support Department.

If proper performance is not obtained you will be issued a Return Authorization number (RMA). Package the unit and ship the instrument, prepaid, to Turner Designs. If the failure is covered under the warranty terms, the instrument will be repaired and returned free of charge, for all customers in the contiguous continental United States.

For customers outside of the contiguous continental United States who have purchased equipment from one of our authorized distributors, contact the distributor. If you have purchased directly, contact us. We will repair the instrument at no charge. Charges for shipment, documentation, etc. will be billed at cost.

Note: Contact Turner Designs before returning instruments or accessories

Prior correspondence including an RMA number is required:

- A. To ensure that the problem is not a trivial one, easily handled in your laboratory, with consequent savings to everyone.
- B. To specifically determine the nature of the problem so repair can be rapid, with particular attention paid to the defect you have noted.

6.3 Out-of-Warranty Service

Follow steps for Warranty Service as listed above. If our Technical Support department can assist you by phone or correspondence, we will be glad to, at no charge. Repair service will be billed on a fixed price basis, plus any applicable duties and/or taxes. Shipment to Turner Designs should be prepaid. Your bill will include return shipment freight charges.

Appendix A

CYCLOPS-7 Specifications

Parameter	Specification
Minimum Detection Limit	0.025 µg/L Chlorophyll a 0.01 ppb Rhodamine WT & Fluorescein 150 cells/mL Cyanobacteria 0.04 NTU Turbidity 0.2 ppb QS** CDOM 0.1 ppm Crude Oil in water 0.002 ppb QS** Optical Brighteners **Quinine Sulfate
Linearity (full range)	0.99 R ²
Power Draw	@3V: Max 360 mW ≥5V: Max 265 mW
Input Voltage	3 – 15 VDC
Signal Output	0 – 5 VDC
Temperature Range	Ambient: 0 to 50 °C Water Temp: -2 to +50 °C
Light Source	Light Emitting Diode
Excitation Wavelength	Visible – (Chl, RWT, PC, PE, F) UV – CDOM, Oil, OB IR – Turbidity
Detector	Photodiode
Detection Wavelength	300 – 1,100 nm
Warm up time	5 seconds
Dimensions, (length excludes connector)	Length: 4.3", 10.9cm Diameter: 0.875", 2.22cm
Weight	5.0 ozs, 160 gm
Depth Rating	600 meters
Housing Material	(Standard) 316 Stainless Steel (Optional) Titanium

Appendix C

CYCLOPS-7 Pigtail Cable and Connector Information

Figure 7

Dimension details of 24" length cable with 20 gauge colored lead wire, connects to 6 pin male connector. (Cable manufacturer/Part No: IMPULSE/MCIL-6-FS)

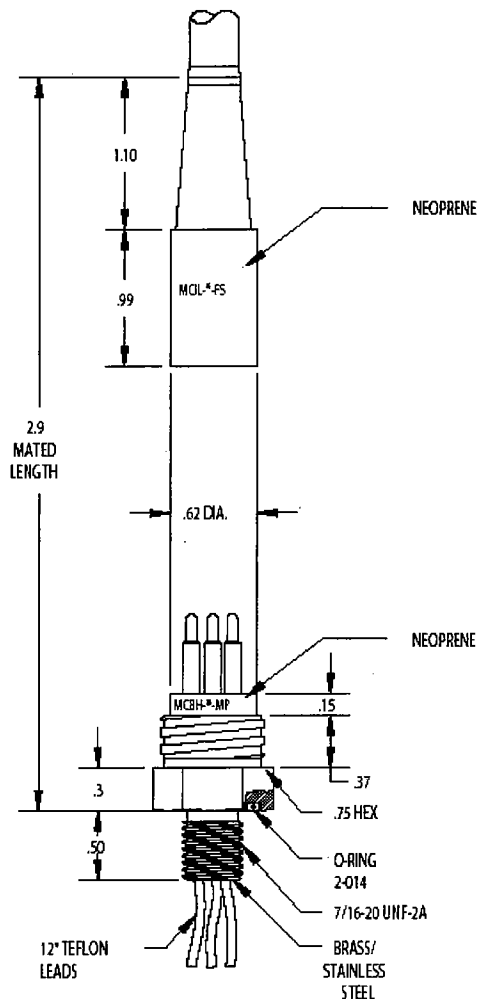


Figure 8

*Female locking sleeve,
(Impulse P/No. MCDLS-F)*

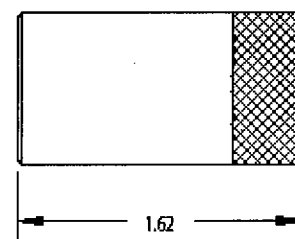


Figure 9

In-line connector contact configuration (connects to CYCLOPS-7).



See Appendix D for a Quote Request template to order a non-standard pigtail cable length/connector for use with the CYCLOPS-7 Fluorometer

A Maximum cable length up to 300 meters can be connected to the CYCLOPS if the following conditions are met.

- 1) The cable is shielded and contains 20 gauge conductor size or greater (i.e. Belden No. 8426 cable).
- 2) The 0-5 volt Analog output is connected to a device (i.e. Data Logger) with an input impedance of 1 MegOhm or greater.
- 3) The supply Voltage to the CYCLOPS is between 5 and 15 volts.

Appendix E

Controlling the Gain of CYCLOPS-7

The operating range can either be set to one of the 3 available ranges, which will be referred to as "Static Gain Control", or it can be dynamically changed to achieve the optimum operating range, referred to below as "Dynamic Gain Control". The first approach is applicable to using the CYCLOPS-7 as a stand-alone sensor. The second approach is applicable to when the CYCLOPS-7 is integrated into a system with control capability. Both methods are implemented by grounding "driving Low" the appropriate gain control pin. The X10 and X100 gain control pins are normally in a "High" state if they are not connected to anything. This means the CYCLOPS-7 default is the X1 gain (largest concentration range) mode. The CYCLOPS-7 can be put into higher gain, lower concentration range modes, by connecting either the X10 or X100 pin (**but not both at the same time**) to ground.

Method 1 - Static Gain Control

Connect the X10 or X100 pin to the analog ground pin of the CYCLOPS-7 pigtail connector. See the Gain Switching Table in Appendix B to determine the required configuration for desired gain/measurement range. See Appendix C for Pigtail Cable and Connector information. Also, see "Setting the Gain" section 2.1 for more information on "Static Gain Control".

Method 2 - Dynamic Gain Control

If you have a Data Collection System (DCS) that has programmable outputs you can use them to control the CYCLOPS-7 gain settings. Following are three common output types found in DCSs and how to connect them to the CYCLOPS-7. Refer to your DCS manual to determine which is appropriate. For those who want technical data: the CYCLOPS-7's X10 and X100 gain control pins are connected internally to the input of a Schmitt trigger inverter, part number 74LVC1G14, and a 100K ohm pull-up resistor. Both use a 5-Volt power supply.

Output type 1: Digital Signals

Logic signals can be used to drive the gain control pins. In most cases you can connect the digital signal output of the DCS directly to the CYCLOPS-7 gain control pins. To drive them high, the voltage should be 3 VDC min – 5 VDC max. To drive them low, the voltage should be 1 VDC max – 0 VDC min. You may need to connect the CYCLOPS-7 analog ground to the DCS ground.

Output type 2: Open Collector Signals

This type of output is either open or connected to ground. Connect the CYCLOPS-7 gain control pins directly to these outputs. You may need to connect the CYCLOPS-7 analog ground to the DCS ground.

Output type 3: Relays

Relays act as a controllable switch. Connect one end of the relay to the CYCLOPS-7 analog ground. Connect the other end of the relay to the CYCLOPS-7 gain control pin.

Debora.R.Barr

From: Chad Smith [chad.smith@darkwatermarine.com]
Sent: Tuesday, June 15, 2010 12:25 AM
To: CO Thomas Jefferson
Subject: Re: NRDA

Thank you for making arrangements to sail with him Shep.

The contractor contacted me and I had e-mailed Cmdr Berkowitz after I had emailed you. We were going to have to scramble to get someone out to you if he wasn't allowed to board the vessel prior to sailing.

Chad

-- Sent from my Palm Pre

On Jun 14, 2010 11:10 PM, CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov> wrote:

NOAA requires a negative PPD test (for TB) for any embarked personnel. We plan to ask for a waiver in the AM to sail with him prior to his test results being read (48 hrs). He will get the sub-q injection in the AM, and will be read on Thurs AM. In the unlikely event that he screens positive, we would probably have to put him ashore.

I just got a call from Berkowitz as well. Why do you ask? Did he contact you with concerns?

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Chad Smith wrote:

> Whats going on with the NRDA rep?
>
> Chad
>

Debora.R.Barr

From: Eric M. Johnson [Eric.Johnson@noaa.gov]
Sent: Friday, June 18, 2010 10:25 AM
To: 'CO Thomas Jefferson'
Subject: RE: Pre-Cruise Analysis Requirements

Please note that there is more than one Eric Johnson in NOAA, with similar email addresses. Your email may have been intended for eric.t.johnson@noaa.gov . Please make the necessary corrections prior to resending.

Sincerely,

Eric Johnson

NEXRAD RF
816-823-1057 ext. 241
National Weather Service
National Reconditioning Center
Kansas City, MO

-----Original Message-----

From: CO Thomas Jefferson [mailto:CO.Thomas.Jefferson@noaa.gov]
Sent: Monday, June 14, 2010 6:06 PM
To: Eric Johnson; Samuel Walker; Glen Rice
Cc: Samuel Greenaway; Eric W Berkowitz
Subject: Pre-Cruise Analysis Requirements

Sam and Eric and Sam and Eric and Glen,

Here is what I think we need to properly plan our work over the coming weeks.

Phase 1-Baseline Water Sampling in West-Central GOM-No pre-operations analysis needed.

Phase 2-Coastal Submerged Oil Recon

- Compilation (preferably geo-referenced as a shape file) of all areas or reported submerged oil in coastal areas. There have been numerous news stories, and one researcher, Jim Cowan (LSU) reported it near SW pass.

- Compilation (preferably geo-referenced as a shape file) of all areas with dispersant applied, along with date applied.

- Historic (since spill started) surface distribution of oil maps.

- Coastal zone currents-just roughly would be fine.

Phase 3-Wellhead

- Compilation of all sample locations in a GIS file, attributed with date/time, max fluorescence, depth of max fluorescence, min DO, depth of min DO, average DO (1100-1200m) and average fluorescence (1100-1200m) for each cast.

- Average currents at wellhead over the past few weeks at 1100m

- Sampling plans of other vessels operating in the area.

Also, I want to ensure that our data is getting into the right hands at Houma, JAG and elsewhere promptly. Do you know who has our acoustic data, MVP data, and CTD data collected to date? Have they been able to read and interpret it? Do they have any questions at all about it?

Lastly, I think it is probable over the next few weeks that we will come upon an anomalous water mass in coastal waters that has the properties that might indicate presence of submerged oil (high fluorescence and low DO). I also think it is possible that the presence of this mass might be of immediate interest to coastal response efforts, as well as other researchers. How would we go about managing this case? What information would you like from us, and who would take care of getting it out to those who need to know?

Thanks for all your continued support,

Best,

Shep

--

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Debora.R.Barr

From: Steve Murawski [Steve.Murawski@noaa.gov]
Sent: Tuesday, June 15, 2010 8:01 PM
To: 'CO.Thomas.Jefferson@noaa.gov'
Subject: Re: Steve or Shelby-please read and respond asap

Standing by

From: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
To: Steve Murawski <Steve.Murawski@noaa.gov>
Sent: Tue Jun 15 19:59:38 2010
Subject: Re: Steve or Shelby-please read and respond asap

The Subsea monitoring group crowd, Chad Smith, Glen Rice, Sam Walker, etc. I heard that Sam Walker may be trying to call you.

I think I laid out both sides of it, and I think both options have some merit.

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Steve Murawski wrote:
Who at Houma?

From: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
To: 'Steve.Murawski@noaa.gov' <Steve.Murawski@noaa.gov>; Shelby Walker <Shelby.Walker@noaa.gov>
Cc: Glen Rice <Glen.Rice@noaa.gov>
Sent: Tue Jun 15 19:52:17 2010
Subject: Steve or Shelby-please read and respond asap

Steve or Shelby,

The Houma folks are really pushing hard to have TJ conduct joint ops with Jack Fitz starting as soon as possible. To do this, we would have to skip any baselining to the west and reduce or eliminate any sampling to the East and North of the spill. Since these were both your requests originally, I need your input on the relative priority of these two courses of action. We are currently working on the westernmost baseline heading toward FGBNMS.

Option 1-original plan-two days baselining west, 4 days coastal, 4 days wellhead (mostly N and E), 8 days coastal working east.

Option 2-Houma proposal-2 days transit, 4 days at wellhead doing joint ops with Jack Fitz, 12 days coastal working east.

Please advise asap,

Shep

----- Original Message -----

Subject:Re: Mission Coordination -M/V Jack Fitz

Date:Tue, 15 Jun 2010 18:38:52 -0500

From:Chad Smith <chad.smith@darkwatermarine.com>

Reply-To:chad.smith@darkwatermarine.com

Organization:Darkwater Marine Services

To:CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>

CC:xo.thomas.jefferson@noaa.gov <XO.Thomas.Jefferson@noaa.gov>, Glen Rice <Glen.Rice@noaa.gov>, Eric W Berkowitz <Eric.W.Berkowitz@noaa.gov>, 'Steve.Murawski@noaa.gov' <Steve.Murawski@noaa.gov>, 'larry.mayer@unh.edu' <larry.mayer@unh.edu>, Tom Weber <weber@ccom.unh.edu>, Samuel Greenaway <Samuel.Greenaway@noaa.gov>, Eileen Graham <EGraham@asascience.com>, Eric.W.Berkowitz@noaa.gov

References:<4C17FDE2.2050801@darkwatermarine.com> <4C180D44.3030709@noaa.gov>

Jim Payne,

Please weigh in on a brief summation of your desired joint operations with the Thomas Jefferson, also please read the e-mail from Captain Shep Smith, the TJ's Captain.

Chad

On 6/15/2010 6:31 PM, CO Thomas Jefferson wrote:

> Chad et al,

>

> Currently we have four days allocated for the area around the
> wellhead, in a leg focused on oil in the coastal zone. Steve Murawski
> has asked us to sample extensively on the E, NE, N, and NW sides of
> the wellhead in order to get more samples in areas where there has
> been less sampling. This will take much of the time we have
> allocated. If the Houma Subsurface Monitoring Group wishes us to do
> something different with these 4 days, or to schedule them earlier, I
> need to have a detailed plan that I can compare with Murawski's
> priorities, and open a discussion with him on priority. We don't
> currently have such a plan. Not fancy, just the outline, days needed,
> where to go, what to do.

> It works out better for us logistically (read-more efficient=more
> useful work done) to work the coast as far as Pascagoula, then the
> wellhead, then work the coast working east from Pascagoula.
> Reorganizing this plan to go directly to the wellhead will effectively
> knock a half day to a day off our productive work.
> Before we came in last week and before we wrote up our trip report, it
> was the consensus of the acoustics group that they needed a week to
> digest the data we have to date, test our hypotheses against the
> Gunter data, and come up with a new test plan before it would be
> appropriate to send us back on site. I haven't heard that this has
> been done yet.

>

> It sounds like the premise of your plan is that

>

> 1-The TJ can locate anomalous water masses acoustically. While we
> have suggested this may be possible in some circumstances, we do not
> wish to advertise it as a proven capability without additional study.

> 2-The submerged oil is dynamic and disaggregated, not a continuous
> "stream" of oil
>
> While we proposed both of these, with appropriate levels of
> uncertainty in our report, it may be premature to base the entire time
> at the wellhead on them.
> However, with concurrence from Murawski that we should rearrange our
> plan and reduce or eliminate any work in the NE sector, I would be
> pleased to head that way immediately.
>
> Shep
>
> CDR Shepard Smith, NOAA
> Commanding Officer
> NOAA Ship Thomas Jefferson
> 439 West York St
> Norfolk, VA 23510
> 757-647-0187
>
>
>
> Chad Smith wrote:
>> Hi Shep,
>>
>> Has anyone talked to you about rendezvous with the NRDA chartered
>> boat Jack Fitz to run some acoustics over their water sample station?
>> If you were inclined this would happen fri, sat or sun at the
>> convenience of the TJ. The goal is to give a cross section of both
>> sample lab analysis and acoustic data.
>>
>> Chad
>>
>
>

--
Chad Smith
Vessel Operations Chief
NOAA-NRDA - Subsurface Monitoring Unit
Deepwater Horizon Incident Command - Houma, LA
(617)-999-4163
www.darkwatermarine.com

--
CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Debora.R.Barr

From: eric.w.berkowitz [Eric.W.Berkowitz@noaa.gov]
Sent: Wednesday, June 16, 2010 8:55 PM
To: CO Thomas Jefferson
Cc: Samuel Walker
Subject: Re: TJ and NRDA

I will speak with Chad...We will get the pickups arranged.

CO Thomas Jefferson wrote:

> Sam and Eric,
>
> It appears to me that Chad Smith has de-prioritized the pickup of our
> samples because he perceives that our work is not in support of NRDA.
> It is, of course. We have a NRDA rep aboard and are following the
> protocols, labeling, handling, etc to the letter. Our work in the
> coastal areas is specifically to assess the presence of subsurface oil
> in the coastal zone, an issue critical to overall NRDA work.
> The baseline work we are doing enroute east is designed to detect the
> furthest west extent of any detectable oil, also in support of NRDA.
> It is critical that we get logistical support to get our sample ashore
> within the specified 7 day window. Also, we do not have scientific
> refrigeration space enough for full-on sampling for 6 days straight.
> If we have to stretch our endurance to 6 days, we will have to
> restrict our sampling density, both by reducing the number of stations
> and the number of bottles at each station.
>
> These are the pickups we need this leg:
>
> on the 18th at sea near Port Fourchon, on the 21st in port Pascagoula,
> on the 24th at sea near the wellhead, on the 27th in port Pascagoula,
> and at sea off Pensacola on the 30th.
>
> I need to hear by tomorrow early that we have a plan in the works for
> these, or I will need to try to make alternate arrangements on my own.
> I told Chad the same thing on the phone a few minutes ago, but I
> wanted to make you aware of the situation.
>
> Best Regards,
>
> Shep
>

--

CDR Eric W. Berkowitz
Chief, Subsurface Monitoring Unit
Unified Incident Command, Houma
eric.w.berkowitz@noaa.gov
<https://www.st.nmfs.noaa.gov/confluence/display/OOP/Home>
cell - 301-204-2791
713-422-4394

Debora.R.Barr

From: Wendy Bradfield-Smith [Wendy.Bradfield-Smith@noaa.gov]
Sent: Wednesday, June 16, 2010 10:54 AM
To: James M Crocker; Kyle Ward
Cc: ChiefOps.MOA; _OMAO MOA CO Thomas Jefferson; OpsMgr MOA
Subject: Re: TJ Follow-on Mission (Please ignore previous email on this subj)

Good morning all,
After phoning CDR Crocker and getting his voice mail notification, I phoned Kyle Ward in OCS/HSD and got the final signed version of the cruise instructions. Now in processing for CAPT Devany's signature.

v/r,
Wendy
757.441.6172

On 6/16/2010 Wendy Bradfield-Smith wrote:
Good morning, CDR Crocker and CDR Smith.
I've got the draft project instruction for Western Sentry Leg 2 for processing (LCDR Roberts and LTJG Emmons are both out of the office on other assignments).

Just one request and we can get this to TJ as a final. Under VII. Miscellaneous, B. Medication Forms and Emergency Contacts, we should delete the contact information for MOC-Pacific. CDR Crocker, can you do this and send me a final version signed by your office?

I don't see much point changing dates now . . . but I'll gladly go with whatever dates you wish.
Thanks in advance,
Wendy
757.441.6172

On 6/11/2010 at 11:33 AM ChiefOps.MOA wrote:
Wendy - pls process ASAP and get CO-MOC signature.

kwr

----- Original Message -----

Subject:Fw: [Fwd: Re: [Fwd: Re: TJ Follow-on Mission]]
Date:Fri, 11 Jun 2010 11:33:51 -0400
From:CO MOC. Atlantic <CO.MOC.Atlantic@noaa.gov>
To:'ChiefOps.MOA@noaa.gov' <ChiefOps.MOA@noaa.gov>

----- Original Message -----

From: james.m.crocker <james.m.crocker@noaa.gov>
To: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
Cc: Jeffrey Ferguson <Jeffrey.Ferguson@noaa.gov>; John Lowell <John.Lowell@noaa.gov>; gerd.glang <Gerd.Glang@noaa.gov>; CO.MOC.Atlantic@noaa.gov <CO.MOC.Atlantic@noaa.gov>
Sent: Fri Jun 11 11:28:47 2010
Subject: Re: [Fwd: Re: [Fwd: Re: TJ Follow-on Mission]]

Shep,

Please review the attached PI. The final signed version will have your

PPT proposal for the leg appended to it.

Jim

CO Thomas Jefferson wrote:

> This sounds like a go, see below. The proposal attached is the most
> concrete plan for the leg.

>

> If OCS is willing, I would suggest we make up project instructions
> like last time.

>

> Best,

>

> Shep

>

> ----- Original Message -----

> Subject: Re: [Fwd: Re: TJ Follow-on Mission]

> Date: Thu, 10 Jun 2010 14:00:11 -0400

> From: Philip M. Kenul <Philip.M.Kenul@noaa.gov>

> To: 'Gerd.Glang@noaa.gov' <Gerd.Glang@noaa.gov> ,

> 'Philip.M.Kenul@noaa.gov' <Philip.M.Kenul@noaa.gov>

> CC: 'Mary.Erickson@noaa.gov' <Mary.Erickson@noaa.gov> ,

> 'Kathryn.Ries@noaa.gov' <Kathryn.Ries@noaa.gov> ,

> 'John.Lowell@noaa.gov' <John.Lowell@noaa.gov> ,

> 'CO.Thomas.Jefferson@noaa.gov' <CO.Thomas.Jefferson@noaa.gov> ,

> 'CO.MOC.Atlantic@noaa.gov' <CO.MOC.Atlantic@noaa.gov>

>

>

>

> Yes

>

> -----
> *From*: Gerd.Glang@noaa.gov <Gerd.Glang@noaa.gov>

> *To*: Philip M Kenul <Philip.M.Kenul@noaa.gov>

> *Cc*: mary.erickson <Mary.Erickson@noaa.gov>; Kathryn Ries

> <Kathryn.Ries@noaa.gov>; John Lowell <John.Lowell@noaa.gov>; OMAO MOA

> CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>; CO.MOC.Atlantic

> <CO.MOC.Atlantic@noaa.gov>

> *Sent*: Thu Jun 10 13:02:36 2010

> *Subject*: Re: [Fwd: Re: TJ Follow-on Mission]

>

> Admiral - Per Juli Trtanj email (below), the outcome of yesterday's
> 5:30 DWH science telephone call was a "go" decision to proceed with a
> plan for redeployment of the TJ. This seems to match with what
> Murawski wrote to Shep as well this morning. Does that match with
> what your understanding is now?

>

> Cheers,

>

> G2

>

> mary.erickson wrote:

>> fyi

>>

>>

>> -----

>>

>> Subject:

>> Re: TJ Follow-on Mission

>> From:

>> Juli Trtanj <Juli.Trtanj@noaa.gov>

>> Date:

>> Thu, 10 Jun 2010 10:17:46 -0400
>> To:
>> "mary.erickson" <Mary.Erickson@noaa.gov>
>>
>> To:
>> "mary.erickson" <Mary.Erickson@noaa.gov>
>> CC:
>> Mike Aslaksen <Mike.Aslaksen@noaa.gov>
>>
>>
>> Hi Mary and Mike,
>>
>> I hope you have heard through other channels on this by now, but just
>> to be safe, the decision was made yesterday to re-deploy the TJ to
>> continue the mission in support of DWH. When I talked to Steve
>> yesterday afternoon, he was in the process of figuring out how to get
>> the vessel properly equipped for water sampling.
>>
>> Thanks for sending forward the proposal....it is great that you are
>> willing and able, though I know at some cost, to keep the TJ on DWH
>> science for a bit longer.
>>
>> By the way, my mobile is 301-651-4889 and the number you have below
>> is correct for work number, but the phones get a bit squirrely at
>> times--too many phones, too few lines, and we all end up with each
>> other's messages occasionally. BB is the best way to reach me.
>>
>> Also, I am on leave tomorrow and out of town, and hopefully off-line
>> for a day. I'm speaking at a conference over the weekend so just
>> trading the 'off day"! If something comes up in my absence would you
>> please be so kind as to call me? I've got your numbers now too.
>>
>> Thanks for all the info you send my way too-it is very helpful.
>>
>> best,
>> Juli
>>
>> mary.erickson wrote:
>>> Juli,
>>>
>>> You were cc'd on the proposal for the TJ extension of their mission
>>> in support of DHW this morning (email from Capt. Gerd Glang). I
>>> understand that there is a science meeting today at 5:30pm, and this
>>> item is on the agenda. I have attached the ppt proposal again for
>>> your review. I wanted you to know that OCS (we are the program
>>> whose mission is interrupted by the TJ work) is in full support of
>>> this project. I tried to call you, but I'm not sure if the NOAA
>>> Locator number is correct (301-713-0524 x 197).
>>>
>>> My cell number is 240-328-5086; my office number is 301-713-2801
>>> x121. Please let me know if you have any questions.
>>>
>>> Thanks,
>>> Mary
>>>
>>> Mike Aslaksen wrote:
>>>> Ok - just got off the phone with Beth Deveney and she is going to
>>>> bring this Dave Westerholm's attention - this is important because
>>>> what I am about to explain...
>>>>
>>>> The mission supporting your program is under your direction - no
>>>> issue. If it is a mission in support of the DHW event and not

>>>> already approved and is using a NOAA platform it needs to from
>>>> Kenul (platforms) to Murawski (Science) to Kennedy/Westerholm where
>>>> approval happens. Now that approval means going up to the UC if
>>>> funding is needed.

>>>>
>>>> There is a call today at 530 with Kenul and the science team so my
>>>> recommendations are to make sure your case is made with Kenul and
>>>> Juli Trtanj (NOS Science rep).

>>>>
>>>> -Mike

>>>>
>>>> _____
>>>>
>>>> Michael L. Aslaksen Jr.
>>>> Chief of Staff (Acting)
>>>> NOAA's National Ocean Service

>>>>
>>>> Tel: 301-713-3074 x148 Mobile: 301-801-9024

>>>>
>>>>
>>>>
>>>>
>>>> mary.erickson wrote:
>>>>> Thanks, Mike.

>>>>>
>>>>> So, please be patient if I have a few more questions on exactly
>>>>> how we do this.
>>>>> Does Juli manage this for us -- we just send to her, and she moves
>>>>> it through the process? Do we just need to provide Juli with John
>>>>> Lowell's approval for our resources (TJ time, etc? Do we need to
>>>>> get Holly's approval for an NOS sign off?

>>>>>
>>>>> Thanks,
>>>>> Mary

>>>>>
>>>>> Mike Aslaksen wrote:
>>>>>> Science box is the group Juli is our rep that includes Bob Haddad
>>>>>> from ORR. The whole "box" structure refers to the support
>>>>>> elements (operations, communications, leg, science, etc.)for NOAA
>>>>>> organization responding to the oil spill led by Kennedy.

>>>>>>
>>>>>> _____
>>>>>>
>>>>>> Michael L. Aslaksen Jr.
>>>>>> Chief of Staff (Acting)
>>>>>> NOAA's National Ocean Service

>>>>>>
>>>>>> Tel: 301-713-3074 x148 Mobile: 301-801-9024

>>>>>>
>>>>>>
>>>>>>
>>>>>>
>>>>>> mary.erickson wrote:
>>>>>>> Who/what is the "Science Box" here? I understand Uhart is on
>>>>>>> leave this week? Do we just need to provide Capt. Lowell's
>>>>>>> concurrence?

>>>>>>>
>>>>>>> Mary

>>>>>>>
>>>>>>> Steve Murawski wrote:
>>>>>>>> We will want the TJ to do another mission involving water
>>>>>>>> sampling and acoustics but the SCIENCE Box, NOS and OMAO have

>>
>
> --
>
> Captain Gerd Glang, NOAA
>
> Commerce & Transportation Goal Team Lead
>
> Office of Coast Survey
>
> 301-713-2780 x133
>
>
>
>
> --
> CDR Shepard Smith, NOAA
> Commanding Officer
> NOAA Ship Thomas Jefferson
> 439 West York St
> Norfolk, VA 23510
> 757-647-0187

--

LCDR Keith W. Roberts, NOAA
Chief, East and Gulf Coast Operations
NOAA Marine Operations Center, Atlantic

office: 757-441-6842
cell: 757-510-6583
email: ChiefOps.MOA@noaa.gov

Debora.R.Barr

From: Wendy Bradfield-Smith [Wendy.Bradfield-Smith@noaa.gov]
Sent: Wednesday, June 16, 2010 9:40 AM
To: James M Crocker
Cc: ChiefOps.MOA; _OMAO MOA CO Thomas Jefferson; OpsMgr MOA
Subject: Re: TJ Follow-on Mission

Good morning, CDR Crocker and CDR Smith.

I've got the draft project instruction for Western Sentry Leg 2 for processing (LCDR Roberts and LTJG Emmons are both out of the office on other assignments).

Just one request and we can get this to TJ as a final. Under VII. Miscellaneous, B. Medican Forms and Emergency Contacts, we should delete the contact information for MOC-Pacific. CDR Crocker, can you do this and send me a final version signed by your office?

I don't see much point changing dates now . . . but I'll gladly go with whatever dates you wish.

Thanks in advance,

Wendy

757.441.6172

On 6/11/2010 at 11:33 AM ChiefOps.MOA wrote:

Wendy - pls process ASAP and get CO-MOC signature.

kwr

----- Original Message -----

Subject:Fw: [Fwd: Re: [Fwd: Re: TJ Follow-on Mission]]

Date:Fri, 11 Jun 2010 11:33:51 -0400

From:CO MOC. Atlantic <CO.MOC.Atlantic@noaa.gov>

To:'ChiefOps.MOA@noaa.gov' <ChiefOps.MOA@noaa.gov>

----- Original Message -----

From: james.m.crocker <james.m.crocker@noaa.gov>

To: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>

Cc: Jeffrey Ferguson <Jeffrey.Ferguson@noaa.gov>; John Lowell <John.Lowell@noaa.gov>;

gerd.glang <Gerd.Glang@noaa.gov>; CO.MOC.Atlantic@noaa.gov <CO.MOC.Atlantic@noaa.gov>

Sent: Fri Jun 11 11:28:47 2010

Subject: Re: [Fwd: Re: [Fwd: Re: TJ Follow-on Mission]]

Shep,

Please review the attached PI. The final signed version will have your PPT proposal for the leg appended to it.

Jim

CO Thomas Jefferson wrote:

> This sounds like a go, see below. The proposal attached is the most
> concrete plan for the leg.

>

> If OCS is willing, I would suggest we make up project instructions

> like last time.
>
> Best,
>
> Shep
>
> ----- Original Message -----
> Subject: Re: [Fwd: Re: TJ Follow-on Mission]
> Date: Thu, 10 Jun 2010 14:00:11 -0400
> From: Philip M. Kenul <Philip.M.Kenul@noaa.gov>
> To: 'Gerd.Glang@noaa.gov' <Gerd.Glang@noaa.gov>,
> 'Philip.M.Kenul@noaa.gov' <Philip.M.Kenul@noaa.gov>
> CC: 'Mary.Erickson@noaa.gov' <Mary.Erickson@noaa.gov>,
> 'Kathryn.Ries@noaa.gov' <Kathryn.Ries@noaa.gov>,
> 'John.Lowell@noaa.gov' <John.Lowell@noaa.gov>,
> 'CO.Thomas.Jefferson@noaa.gov' <CO.Thomas.Jefferson@noaa.gov>,
> 'CO.MOC.Atlantic@noaa.gov' <CO.MOC.Atlantic@noaa.gov>
>
>
>
> Yes
>
> -----
> *From*: Gerd.Glang@noaa.gov <Gerd.Glang@noaa.gov>
> *To*: Philip M Kenul <Philip.M.Kenul@noaa.gov>
> *Cc*: mary.erickson <Mary.Erickson@noaa.gov>; Kathryn Ries
> <Kathryn.Ries@noaa.gov>; John Lowell <John.Lowell@noaa.gov>; _OMAO MOA
> CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>; CO.MOC.Atlantic
> <CO.MOC.Atlantic@noaa.gov>
> *Sent*: Thu Jun 10 13:02:36 2010
> *Subject*: Re: [Fwd: Re: TJ Follow-on Mission]
>
> Admiral - Per Juli Trtanj email (below), the outcome of yesterday's
> 5:30 DWH science telephone call was a "go" decision to proceed with a
> plan for redeployment of the TJ. This seems to match with what
> Murawski wrote to Shep as well this morning. Does that match with
> what your understanding is now?
>
> Cheers,
>
> G2
>
> mary.erickson wrote:
>> fyi
>>
>>
>> -----
>>
>> Subject:
>> Re: TJ Follow-on Mission
>> From:
>> Juli Trtanj <Juli.Trtanj@noaa.gov>
>> Date:
>> Thu, 10 Jun 2010 10:17:46 -0400
>> To:
>> "mary.erickson" <Mary.Erickson@noaa.gov>
>>
>> To:
>> "mary.erickson" <Mary.Erickson@noaa.gov>
>> CC:
>> Mike Aslaksen <Mike.Aslaksen@noaa.gov>
>>

>>
>> Hi Mary and Mike,
>>
>> I hope you have heard through other channels on this by now, but just
>> to be safe, the decision was made yesterday to re-deploy the TJ to
>> continue the mission in support of DWH. When I talked to Steve
>> yesterday afternoon, he was in the process of figuring out how to get
>> the vessel properly equipped for water sampling.
>>
>> Thanks for sending forward the proposal....it is great that you are
>> willing and able, though I know at some cost, to keep the TJ on DWH
>> science for a bit longer.
>>
>> By the way, my mobile is 301-651-4889 and the number you have below
>> is correct for work number, but the phones get a bit squirrely at
>> times--too many phones, too few lines, and we all end up with each
>> other's messages occasionally. BB is the best way to reach me.
>>
>> Also, I am on leave tomorrow and out of town, and hopefully off-line
>> for a day. I'm speaking at a conference over the weekend so just
>> trading the 'off day"! If something comes up in my absence would you
>> please be so kind as to call me? I've got your numbers now too.
>>
>> Thanks for all the info you send my way too-it is very helpful.
>>
>> best,
>> Juli
>>
>> mary.erickson wrote:
>>> Juli,
>>>
>>> You were cc'd on the proposal for the TJ extension of their mission
>>> in support of DHW this morning (email from Capt. Gerd Glang). I
>>> understand that there is a science meeting today at 5:30pm, and this
>>> item is on the agenda. I have attached the ppt proposal again for
>>> your review. I wanted you to know that OCS (we are the program
>>> whose mission is interrupted by the TJ work) is in full support of
>>> this project. I tried to call you, but I'm not sure if the NOAA
>>> Locator number is correct (301-713-0524 x 197).
>>>
>>> My cell number is 240-328-5086; my office number is 301-713-2801
>>> x121. Please let me know if you have any questions.
>>>
>>> Thanks,
>>> Mary
>>>
>>> Mike Aslaksen wrote:
>>>> Ok - just got off the phone with Beth Deveney and she is going to
>>>> bring this Dave Westerholm's attention - this is important because
>>>> what I am about to explain...
>>>>
>>>> The mission supporting your program is under your direction - no
>>>> issue. If it is a mission in support of the DHW event and not
>>>> already approved and is using a NOAA platform it needs to from
>>>> Kenul (platforms) to Murawski (Science) to Kennedy/Westerholm where
>>>> approval happens. Now that approval means going up to the UC if
>>>> funding is needed.
>>>>
>>>> There is a call today at 530 with Kenul and the science team so my
>>>> recommendations are to make sure your case is made with Kenul and
>>>> Juli Trtanj (NOS Science rep).
>>>>

>>>> -Mike
>>>>
>>>> _____
>>>>
>>>> Michael L. Aslaksen Jr.
>>>> Chief of Staff (Acting)
>>>> NOAA's National Ocean Service
>>>>
>>>> Tel: 301-713-3074 x148 Mobile: 301-801-9024
>>>>
>>>>
>>>>
>>>> mary.erickson wrote:
>>>>> Thanks, Mike.
>>>>>
>>>>> So, please be patient if I have a few more questions on exactly
>>>>> how we do this.
>>>>> Does Juli manage this for us -- we just send to her, and she moves
>>>>> it through the process? Do we just need to provide Juli with John
>>>>> Lowell's approval for our resources (TJ time, etc? Do we need to
>>>>> get Holly's approval for an NOS sign off?
>>>>>
>>>>> Thanks,
>>>>> Mary
>>>>>
>>>>> Mike Aslaksen wrote:
>>>>>> Science box is the group Juli is our rep that includes Bob Haddad
>>>>>> from ORR. The whole "box" structure refers to the support
>>>>>> elements (operations, communications, leg, science, etc.)for NOAA
>>>>>> organization responding to the oil spill led by Kennedy.
>>>>>>
>>>>>> _____
>>>>>> Michael L. Aslaksen Jr.
>>>>>> Chief of Staff (Acting)
>>>>>> NOAA's National Ocean Service
>>>>>>
>>>>>> Tel: 301-713-3074 x148 Mobile: 301-801-9024
>>>>>>
>>>>>>
>>>>>>
>>>>>>
>>>>>> mary.erickson wrote:
>>>>>>> Who/what is the "Science Box" here? I understand Uhart is on
>>>>>>> leave this week? Do we just need to provide Capt. Lowell's
>>>>>>> concurrence?
>>>>>>>
>>>>>>> Mary
>>>>>>>
>>>>>>> Steve Murawski wrote:
>>>>>>>> We will want the TJ to do another mission involving water
>>>>>>>> sampling and acoustics but the SCIENCE Box, NOS and OMAO have
>>>>>>>> not endorsed the costs nor the mission profile. Lets make sure
>>>>>>>> the ship is available but do not take the proposal to UC yet.
>>>>>>>>
>>>>>>>> Steve
>>>>>>>>
>>>>>>>> Gerd.Glang@noaa.gov wrote:
>>>>>>>>> Hi Charlie,
>>>>>>>>>
>>>>>>>>>> Today is the go/no-go decision point for a follow-on DWH

>
> 301-713-2780 x133
>
>
>
>
> --
> CDR Shepard Smith, NOAA
> Commanding Officer
> NOAA Ship Thomas Jefferson
> 439 West York St
> Norfolk, VA 23510
> 757-647-0187

--

LCDR Keith W. Roberts, NOAA
Chief, East and Gulf Coast Operations
NOAA Marine Operations Center, Atlantic

office: 757-441-6842
cell: 757-510-6583
email: ChiefOps.MOA@noaa.gov

Debora.R.Barr

From: CO Thomas Jefferson [CO.Thomas.Jefferson@noaa.gov]
Sent: Friday, June 18, 2010 1:58 PM
To: 'Steve.Murawski@noaa.gov'; John Lowell; Samuel Walker; co.moc.atlantic@noaa.gov; 'Robert.Haddad@noaa.gov'; William Conner; Eric W Berkowitz; Robert Pavia; gerd.glang
Subject: Re: TJ Weekly progress and tasking review
Attachments: TJ Leg 3 Progress6-18.pptx; TJ Leg 3 Proposal.pptx

I have attached a quick progress ppt and the the original plan ppt for your reference in this afternoon's call.

Call in number: 866-953-9438
passcode: 5324058

Talk soon,

Shep

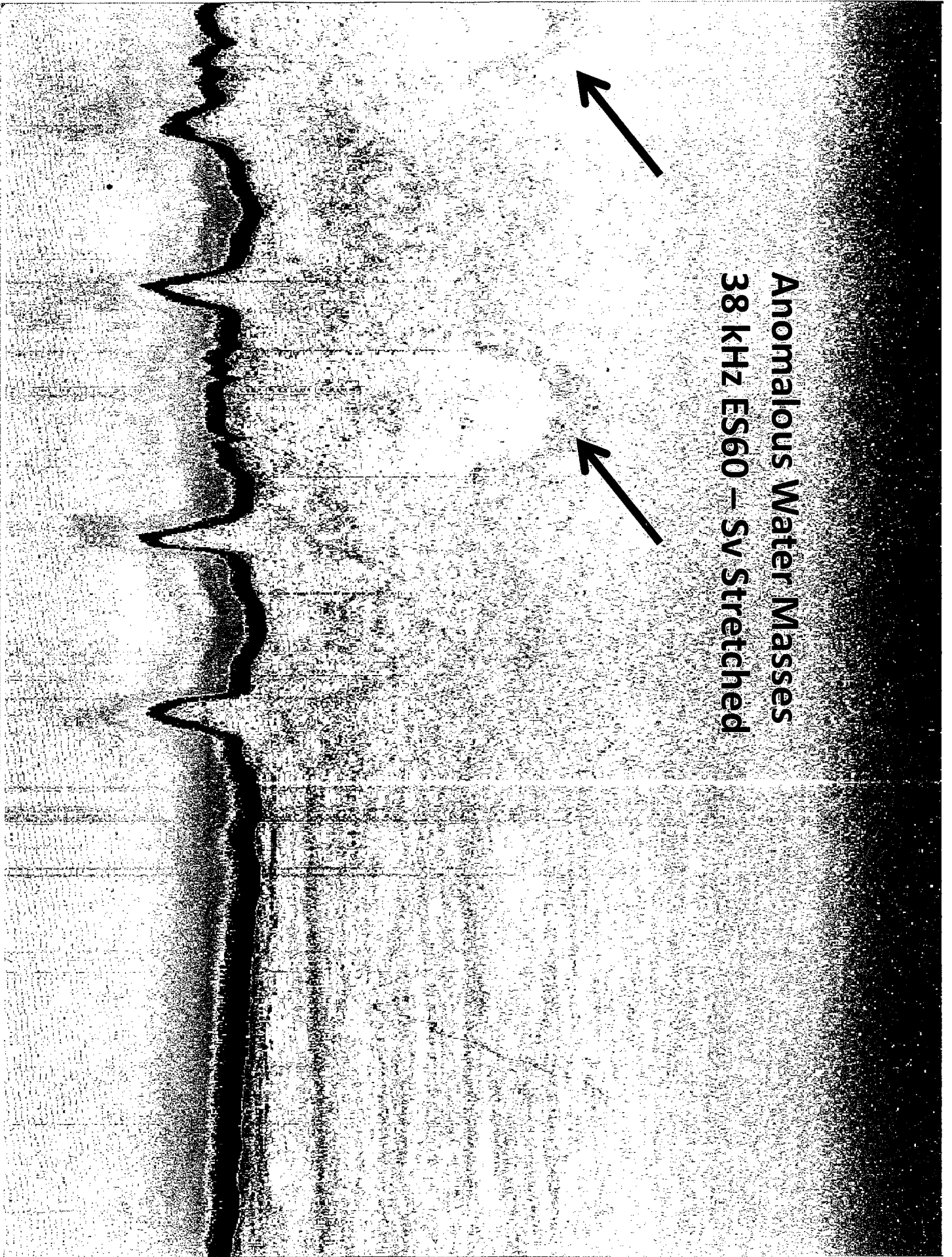
CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

CO Thomas Jefferson wrote:

> Gents,
>
> While we have really just gotten started on this new leg, I think it
> would be smart to build in some structure to reconfirm or modify our
> plans as we go based on our progress and findings or on changing
> circumstances in the response or assessment efforts of others. I want
> to ensure that TJ is tasked with the most timely and important work
> for which she is capable throughout the leg. I also want to ensure
> there is no confusion about our plans, and that if there is a
> difference of opinion as to priority, that we can adjust the plan
> accordingly.
>
> I would like to suggest we do this on each of the next two Fridays,
> addressing the work of the coming week. I know you are all very busy,
> so I don't want to take up much of your time. I will write up a short
> progress report to be sent out Friday AM to this address list and any
> others you suggest. The report will contain my recommendation for an
> updated plan for the coming week. Sometime in the afternoon we can
> have a quick (1/2 hr) conference call to discuss it and clarify the
> plan. This would be invaluable to me. Do you think you could all
> participate directly or by proxy? How about 3 PM Eastern/2 PM Central?
>
> Thoughts?
>
> Shep
>
> This is our current plan:

> June 15- Depart Galveston, baseline water sampling and CTD
> in the vicinity of Flower Gardens National Marine Sanctuary
> June 16-Continue baseline work working Northeast toward
> shallower water just west of Port Fourchon.
> June 17-21 Reconnaissance for submerged oil in the coastal
> zone, moving east along the Delta
> June 21-Water, personnel, sample transfer in Pascagoula
>
>
> June 21-25 Wellhead and vicinity
> June 26-27 Reconnaissance for submerged oil in coastal zone, moving
> east June 27 Water, personnel, and sample transfer in Pascagoula June
> 27-July 2 Reconnaissance for submerged oil in coastal zone, moving
> east July 2-Arrive Key West
>
>

Anomalous Water Masses
38 kHz ES60 – Sv Stretched





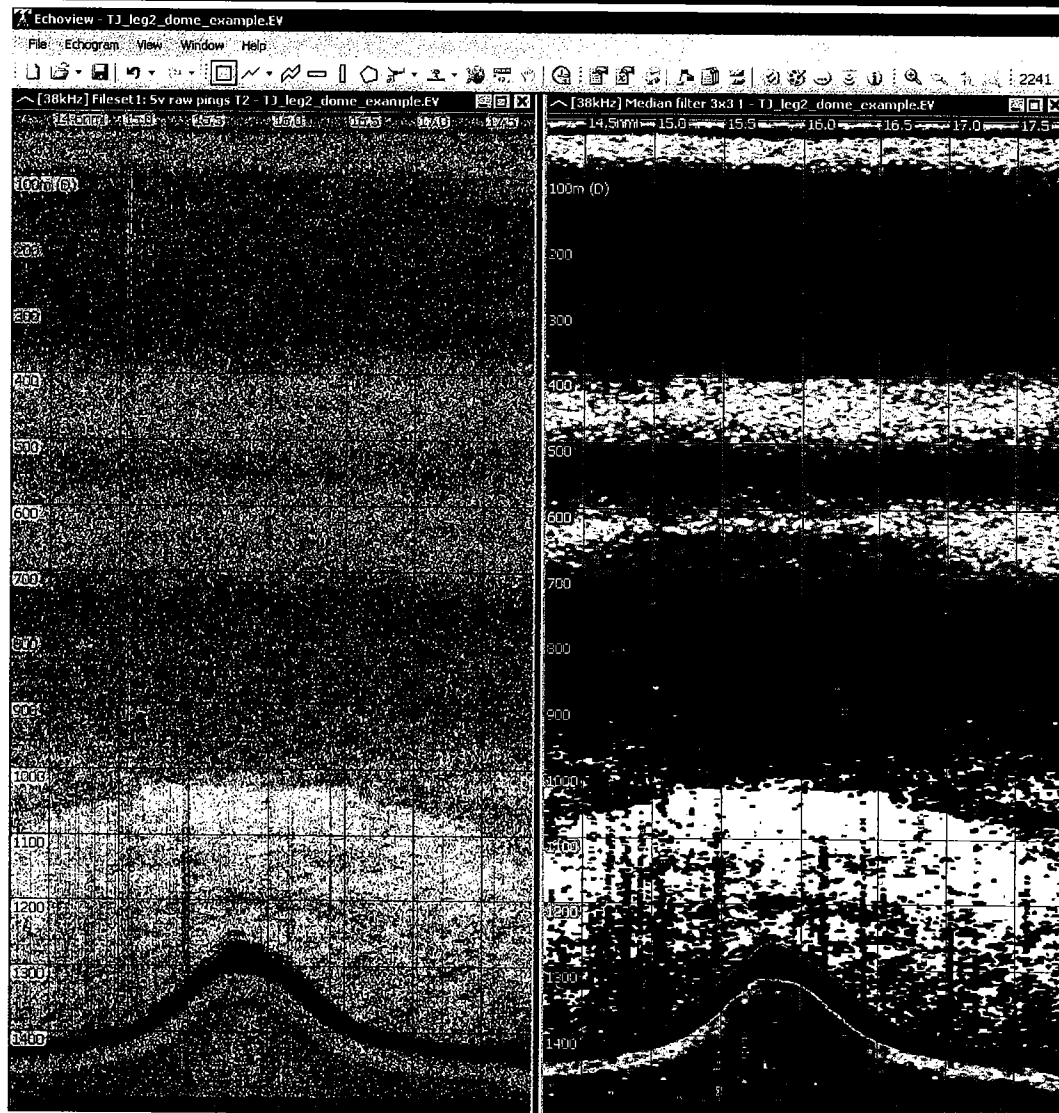
Low backscatter @ ~1100 m
Follows bathymetry and is not a
multiple bottom echo



500m

1000m

1500m



Deep Scattering Layer

Low backscatter

Location

28 42.775 N

88 31.643 W

06:50 GMT

06/05/10